

THE
NEW DISPENSATORY:

CONTAINING,

- I. The ELEMENTS of PHARMACY.
- II. The MATERIA MEDICA, or an Account of the Substances employed in Medicine; with the Virtues and Uses of each Article, so far as they are warranted by Experience and Observation.
- III. The Preparations and Compositions of the new LONDON and EDINBURGH PHARMACOPŒIAS; with some of the most celebrated foreign Medicines; the most useful of those directed in the Hospitals; fundry elegant extemporaneous Forms, &c. digested in such a Method as to compose a regular System of Pharmacy; with Remarks on their Preparation and Uses; the Means of distinguishing Adulterations; of performing the more difficult and dangerous Processes with Ease and Safety, &c.

The Whole interspersed

With Practical Cautions and Observations,

BY W. LEWIS, M. B. F. R. S.

THE SIXTH EDITION,

Carefully revised; in which are inserted the various Improvements that have occurred in Medicine, from the Period of its last publication.

LONDON:

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THE
AUTHOR'S PREFACE.

THE New Dispensatory was intended as a regular book of practical and scientific pharmacy; composed of principles agreeable to those, on which the colleges of London and Edinburgh have proceeded, in the late reformation of their officinal Pharmacopœias; containing full and clear directions, drawn from actual experience, for the preparation of the several medicines, particularly where accompanied with any difficulty or danger; and assigning every where, as far as possible, their real virtues and uses; intentions, which, though of primary importance in a work of this kind, do not seem to have been at all regarded, in the other Dispensatories that have hitherto appeared.

The author has had the satisfaction of finding that his endeavours have not been in vain; that though the work fell very far short of the perfection which he wished for, it was distinguished with approbations even beyond his hopes; with approbations, which have induced the compilers of the other Dispensatories to borrow very considerable parts of it in their last editions; in one of which, besides many paragraphs and entire pages here and there, the greatest part of two hundred pages together is illiberally copied from this work.

In this edition, I have made many material corrections and additions; and retrenched sundry exceptionable particulars, which, in compliance with common prejudices, had been admitted in the first attempt.

The first part contains the Elements of Pharmacy, or what is commonly called Pharmaceutical Chemistry. The general neglect of this interesting and useful study, as applied to medicinal subjects, has engaged me to greatly enlarge this part, and to labour it with more care and precision. I have endeavoured to give a concise and systematic view of the general properties and relations of vegetable, animal, and mineral bodies; the different medicinal principles they contain; the means of extracting and separating their native component parts, without making any alteration in their qualities; and the different forms and powers which they assume, from different natural or artificial operations, or from the mixture and coalition of one with another; avoiding every where all hypothetical reasonings, and delivering only the direct result of experiment and observation. To this history is added a practical account of the instruments and operations of the art, which, it is hoped, will give the reader a full idea of them, without the tediousness of minute details.

The next part contains the *Materia Medica*, or medicinal simples, which, for reasons assigned in the introduction to this part, are all ranged in alphabetic order. Rationales of the operations of medicines, which are at best but conjectural and unsatisfactory, have no place in this practical work: but some general observations, of the sensible effects of certain classes of medicines, in Cartheuser's manner, it has been thought expedient to retain, with some amendments from the former editions,

AUTHOR'S PREFACE.

In treating of the several simples themselves, I have given, where necessary, a description of the simple, with the marks of its genuineness and goodness; and pointed out the distinguishing characters of such as, from a resemblance in external appearance, are liable to be confounded with others of different qualities. With regard to their virtues, particular care has been taken to reject the fabulous ones, which are still preserved in other books of this kind; and to give only those which have either been confirmed by repeated experience, or may be rationally inferred from the sensible qualities of the subject, or from its agreement in smell, taste, &c. with others of known virtue. Under each simple are mentioned all the preparations made from it, and all the compositions in which it is an ingredient, in the London and Edinburgh Pharmacopœias. Many of the capital articles I have examined pharmaceutically, and shown in what separable part of the mixt its virtue resides, by what means the active principle is best extracted or preserved, and in what form the substance itself or its preparations are most commodiously and advantageously exhibited. At the end of this part, the directions for the collection and preservation of medicinal substances are re-considered.

The third and fourth parts contain the preparations and compositions of the new London and Edinburgh Pharmacopœias; with a few of the old ones, which I am informed are still kept in some shops, and occasionally called for; several of the more celebrated medicines which have come into esteem in France and Germany; many from our hospitals; and some elegant extemporaneous prescriptions, such as are directed in practice.

In the distribution of these materials, it has been found necessary to depart from the order hitherto re-

ceived. In other Dispensatories, and in a former edition of this, medicines are divided into two general heads, officinal and extemporaneous. This division is apparently faulty: for many of those called officinal are strictly extemporaneous, being made only as they are wanted: and many of those which are called extemporaneous, are very well fitted for keeping: if we should appropriate the term officinal to those which have the sanction of public colleges, then this absurdity would follow, that medicines of as tedious preparation as any in the book, even Baumé's extract of opium, which* requires several months' continual boiling, would be extemporaneous preparations.

To avoid this impropriety, and that of repeating the same forms, and frequently almost the same compositions, in different parts of the book, I have ranged medicines of similar preparation or composition in one class, without regard to the inessential circumstances of their being used at London or at Edinburgh, at Paris or at Berlin, in the shops or in the hospitals; and have endeavoured to dispose them in such a manner, as to form, so far as could be done with such materials, one regular whole, a connected system of practical pharmacy. That the medicines of the London and Edinburgh colleges may be the more readily known from the others, their titles are printed in a larger character. The distinction, indeed, between preparations and compositions, the former of which make the third part, and the latter the fourth, is not perhaps altogether unexceptionable, considering the great multiplicity and diversity of the subjects, many of which partake of the nature of both, though some more of one, and others of the other: but this does not at all affect the plan, or produce any disorder in the system, which continues the same whether this distinction is retained or dropt.

The Edinburgh medicines are taken from the last edition of the *Pharmacopæia Edinburgensis*, published in the year 1756, a complete translation of which has not before appeared.

In translating the several prescriptions, wherever the originals appeared too concise or obscure, the liberty has been taken of expressing the directions in a more full and clear manner, with care not to vary the sense. The ingredients in the several compositions are, for the greater distinctness (a point which throughout the whole has been particularly aimed at), ranged in different lines, as in the originals. For want of some method of this kind, there are instances of ingredients being confounded, and two articles mistaken for one.

To the several medicines is subjoined, where it seemed requisite, an account of the principles on which they are built; together with their virtues, use, and dose; and the cautions necessary to be observed in the exhibition of them. To the more difficult or dangerous operations is added a full description of the method of performing them with advantage and safety; and to such medicines as are liable to sophistication, the means of distinguishing the genuine from the adulterated. In these practical remarks on the particular preparations, and on the general classes of them at the beginning of the respective chapters and sections, the author has laboured with diligence. If he has succeeded in executing his intentions, the directions are such, as may enable every apothecary to prepare, as it is his duty to do, all his own medicines.

The tables, inserted in a former edition, were so well received, that the other Dispensatories have copied them entire. One of these tables, however, that of specific gravities, appears, on re-examining it, to be exceptionable: great part of it was drawn from Dr. Friend's experiments, in his *Prælectiones Chymi-*

cc, in which the numbers, by some accident, have been so faultily set down, that no dependence can be had upon them; and few other hydrostatical experiments have been made on medicinal substances or their preparations. I have therefore now thrown out that table, but preserved all that was valuable in it, reduced to a more useful form, in the table of the weights of certain measures of different fluids. I have likewise added several new ones, greatly enlarged the others, so as to render them of more utility in practice, and distributed them in the different parts of the work to which they belong. The facts on which they are built, where no authority is mentioned, are in all cases (except only in the above mentioned table of weights) from my own experience.

The author is sufficiently sensible, that there are still many imperfections in this performance; but hopes it will appear, that he has every where consulted the dignity of the art, the ease and advantage of the operator, and the health of the patient.

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TO THE
SIXTH EDITION.

SEVERAL years have elapsed since Dr. Lewis revised this Dispensatory, to which he made many additions, and otherwise improved it, by inserting a variety of discoveries which were held in estimation at that day.

As medicine, however, in all its particular departments, has been still from year to year farther improving, and as many alterations have also been made from the result of great labour, and repeated experience of medical professors and practitioners; a new edition of this Dispensatory could not be given to the public without paying every attention to such matters, as have of late years greatly enriched the repositories of medicine, not only in the acquisition of fresh materials; but in the alterations of many of the old compositions; whereby they have been deprived of that useless farrago of inert or contradictory ingredients, with which they were crowded. Besides, medical men, as if ashamed of a variety of names by which medicinal substances were formerly distinguished, because they conveyed no useful or discriminating ideas, have thought proper to alter those terms, and supply their places, where necessary, with others more scientific, and infinitely more advantageous. In the present edition, all these improvements and alterations have been carefully inserted; and where any reformati^ons have been presented, or any prescriptions of the old schools considered as useful, these have been retained: to all which is added a very copious Index, and so marked that the old and new names may be at one view discovered; and the doses of a very great variety of articles in present use are particularly specified, agreeable to the table given in the

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London Pharmacopœia. Add to this, that in the account given of the particular articles of the *Materia Medica*, the medical virtues which are generally attributed to them are concisely set down, so that their powers, and the intent for which they are administered, become manifest and easily retainable in the memory. On the whole, every attention has been paid in the several departments of medicine, so as to comprize all that is practically useful, with respect to the specific nature of each medicine—the modes of their application—their different forms and doses; with the diseases and their different states, which require different doses of the same medicine, to answer particular purposes. With these advantages, there can little doubt remain of its being fraught with all the benefit which can be derived from a work of this nature.

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and the means by which those that of themselves are not miscible may be made to unite—the separation of the medicinal from the inactive matter, and of different kinds of medicinal matter from one another when combined together in the same subject, on the principle of affinity.

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the alterations which the medicinal parts themselves undergo in the various combinations, and by different methods of treatment—the production of new properties and medicinal powers from the combination of different things—will be explained in a manner analogous to that of chemistry, and a perfect resemblance with pharmacy, considered in this light, is essentially necessary to the due exercise of the art of pharmacy. Without it, the physician must give out a species of materials for the different forms of preparation or compound, on the supposition that they will be the same as in the original state, and often be deceived.

PART I.

Elements of Pharmacy.

CHAPTER I.

Definition and Division of Pharmacy.

PHARMACY is the art of preparing, preserving, and compounding natural and artificial substances for medicinal purposes, in a manner suitable to their respective properties, and the intentions of cure.

This art has been commonly divided into two branches, **GALENICAL** and **CHEMICAL**: but no rational principle of distinction between them has as yet been fixed on. For Pharmacy, in its full extent, is no other than a branch of chemistry, and the most simple pharmaceutical preparations are so far chemical, as they have any dependence upon the properties or relations of the materials.

PHARMACY, according to our definition, may be divided into **THEORETICAL** and **PRACTICAL**. Theoretical Pharmacy teaches the knowledge of the medicinal substances themselves, their various properties, qualities, and relations to one another, and their general effects on the human body: Practical pharmacy, the skilful performance of the several processes, or operations, by which they are adapted to particular uses.

The theory of pharmacy is the direct result of experiment and observation, or rather a general and comprehensive view of experiments and facts themselves; it may be termed **SCIENTIFIC PHARMACY**, in distinction from mere manual labour.

Scientific pharmacy includes all those facts which relate to—the reduction of medicinal substances into different forms, and the forms in which particular substances are most commodiously or advantageously used—their relations to one another in regard to miscibility,

and the means by which those, that of themselves are not miscible, may be made to unite—the separation of the medicinal from the inactive matter, and of different kinds of medicinal matter from one another when combined together in the same subject, on the principle of one being dissoluble in liquors which will not dissolve the other, of one being exhalable by heat while the other remains fixt, &c.—the alterations which the medicinal parts themselves undergo, in different circumstances, and by different methods of treatment—the production of new properties and medicinal powers from the coalition of dissimilar things—with many other particulars analogous to these.

It is obvious, that a perfect acquaintance with pharmacy, considered in this light, is essentially necessary to the due exercise of the art of physic. Without it, the prescriber must often err in the choice of materials for the different forms of preparation or composition, or in adapting a manner of preparation to given materials; and often be deceived also in the medicinal effects, which the known powers of the ingredients, separately, gave room to expect.

It would be inconsistent with the nature of a Dispensatory, to wholly detach the scientific part of pharmacy from that which is more directly practical; for the science gradually results in the course of the practical details. In this first part of the work it has been thought expedient to premise a summary view of the general elements of the art, both practical and scientific, that the reader may be the better prepared for the particular subjects and processes, which follow in the second and third parts.

CHAPTER II.

A general view of the Properties and Relations of Medicinal Substances.

SECT I.

Vegetables.

VEGETABLES are organised bodies, containing, in certain vessels, different kinds of substances, in which their medicinal virtues consist, and which are found to differ greatly, not only in their quantity, but likewise in their quality, according to the age of the plant, the season of the year, and the soil in which it is produced.

Thus some herbs in their infancy abound most with odoriferous matter; of which others yield little or none till they have attained to a more advanced age. Many fruits, in their immature state, contain an austere acid juice, which by maturation is changed into a sweet: others, as the orange, are first warm and aromatic, and afterwards, by degrees, become filled with a strong acid. The common grain, and sundry other seeds, when beginning to vegetate, are in taste remarkably sweet; yet the kernels of certain fruits prove, at the same period, extremely acrid. The roots of some of our indigenous plants, whose juice is, during summer, thin and watery, if wounded early in the spring, yield rich balsamic juices, which, exposed to a gentle warmth, soon concrete into solid gummy-resins, superior to many of those brought from abroad. In open exposures, dry soils, and fair warm seasons, aromatic plants prove stronger and more fragrant, while those of an opposite nature grow weaker. To these particulars therefore due regard ought to be had in the collecting of plants for medicinal uses.

It may be proper to observe also, that the different parts of one plant are often very different in quality from one another. Thus the bitter herb wormwood rises from an aromatic root; and the narcotic poppy-head includes seeds which have no narcotic power. These differences, though very obvious in the common culinary plants, do not seem to have been sufficiently observed, or attended to, in the medicinal ones.

The medicinal juices of vegetables, and the active parts with which they are impregnated, may, generally, be extracted and separated, by simple operations, without any alteration being made in their native qualities. They may, likewise, be variously altered and transformed, by operations not less simple. By fermentation

and the power of fire, vegetables, and all the substances that exist in them (the pure watery part excepted) totally change, their nature, and are converted or resolved into products of another order. It will be proper to take a view of these productions first; some of them being subservient to the separation of the native principles, and to the better understanding of their properties.

I. *Productions from Vegetables by Fermentation.*

FERMENTATION is a spontaneous motion excited in dead vegetables and animals, which is peculiar to those organic substances in consequence of the principle of vegetable or animal life.—A certain degree of humidity, a certain degree of heat, and the contact of the air, are circumstances favouring this process.

The sweet and acescent juices of fruits, infusions of malted grain, and almost all vegetable juices or infusions that are either simply sweet or of a sweetness mixed with acidity, on being kept in a place of temperate warmth, in a vessel not closely stoppt, ferment, grow turbid, throw off a large quantity of gross matter, and are converted by degrees into a VINOUS LIQUOR; from which may be separated, by processes hereafter described, a pure INFLAMMABLE SPIRIT.

These productions are different, in their medicinal as well as their more obvious properties, from the liquors that afforded them. The native juices of fruits attenuate the animal fluids, and relax the solids, so as to prove in some cases useful aperient medicines, and to occasion, when imprudently taken, dangerous fluxes; whereas the vinous and spirituous liquors, produced from them by fermentation, have the opposite effects, constringing the solids, and thickening or coagulating the fluids.

In vinous liquors there are great diversities, independently of their being more or less watery; for some of the native qualities of vegetable juices and infusions, as colour, flavour, viscosity, &c. often remain in the wine, not being totally subduable by that degree of fermentation by which the liquor is rendered vinous: but of these diversities the spirit is never found to partake: this, separated from the wine and properly purified, is *always one and the same thing*, from whatever kind of vegetable liquor it was produced.

Besides the gross matter thrown off during the fermentation, there separates from sundry wines, after the fermentation is completed, another kind of substance. The sides and bottom of the cask become gradually incrustated with a saline concrete, called TARTAR, of an acid taste, and of a reddish or white colour, according to that of the wine. The colour is adventitious to the salt, for the tartar may be purified from it by solution in water: when thus purified, the tartar of all wines is found to be the same.

There is separated also, in fermentation, a substance of a much more active nature than any of the preceding. When the fermentation is at its height, a subtle, pungent, elastic, incoercible VA-

POUR called gas is discharged ; this gas is the GAS SYLVESTRE of Helmont, and the fixed air, aërial acid, or carbonic acid of modern chemists ; which, when copiously accumulated in close rooms, extinguishes fire, and instantaneously suffocates animals, without producing any apparent disease, or any injury that can be perceived upon dissection. Boërhæave says he does not remember that so immediate, mortal, and subtle a poison has been hitherto discovered : that if a large vessel, full of the juice of grapes in high fermentation, should discharge its accumulated vapour through a small orifice, and a strong healthy man should draw in the vapour at his nostrils, he would instantly fall down dead ; or if he received but little thereof, become apoplectic ; or, if still less, would remain an idiot during life, or become paralytic : and that these accidents befall those who imprudently remain long in close vaults where large quantities are fermenting. It may be observed that this vapour, when not collected in such a quantity as to extinguish a small flame, as that of a candle, is generally not dangerous, or at least not mortal, to animals.

There are several substances, of themselves not susceptible of fermentation, which nevertheless may be brought into it by the admixture of those that are ; as by adding to them, along with a proper quantity of water, a portion of the yeast or head thrown up to the surface of fermenting liquors. Without this expedient, many vegetables would run immediately into the acetous, and some of them into the putrefactive fermentation. To this therefore recourse is sometimes had for unlocking the texture of certain compact vegetable matters, in order to enable them to give out more readily some of their medicinal principles. In these cases, the fermentation must be continued but for a little time ; lest the resolution of the subject should proceed beyond the intended limits, and the principles expected from it be converted into other products.

The fermentable juices of fruits, boiled till they become thick, are found to be indisposed to ferment, and this not only in their thick state, but when diluted again with water ; though there appears to be scarcely any other alteration produced in them by the boiling. Hence liquids, prone to fermentation, may thus be preserved. How far this diminution of their fermentability may affect their medical virtues, is not as yet clear.

THE degree or the species of fermentation, by which wines and inflammable spirits are produced, is called *vinous fermentation*. If the process be further protracted, more gross matter is thrown off, and new changes succeed, but in a slower and less tumultuary manner than before. The heating inebriating wine becomes by degree, a cooling acid VINEGAR, which seems to counteract the effects of the other : the more the wine abounded with inflammable spirit, the more does the vinegar abound with unflammable acid.

There are, however, certain qualities of vegetables, which are not completely subdued even by this second stage of fermentation ;

some vinegars being apparently more coloured, and containing more of an oily and viscid matter than others. By adding to the fermentable liquor subjects of other kinds, the qualities both of wines and vinegars may be still further diversified, so as to adapt them to particular medicinal uses.

If the process be still further continued, further changes take place. The matter putrefies: and at length, what little liquor remains unevaporated, is found to be mere water, and the solid substance at the bottom appears to be the same with common mould.

This is reckoned by the chemists one of the stages of fermentation, and distinguished by the name of the *putrefactive stage*. It is far more general in its object than the other two; every vegetable matter being susceptible of putrefaction, but some particular kinds only being adapted to vinous or acetous fermentation.

Putrefaction discovers one difference in vegetables, which seems worthy of being remarked. The generality of vegetables rot and turn to mould, without yielding any very offensive smell from the beginning to the end of the resolution: but there are some which emit, throughout the whole process, a strong fetor, very nearly of the same kind with that which accompanies the putrefaction of animal substances, which by chemical trials is found to be the volatile alkali.

It is however necessary to observe, that every vegetable that has suffered the vinous, will proceed to the acetous and putrefactive fermentation; yet the second stage is not necessarily preceded by the first—nor the third by the second—or in other words:—the acetous fermentation is not necessarily confined to those substances which have undergone the vinous;—nor the putrefactive to those which have undergone the acetous fermentation.

II. *Productions from Vegetables by Fire.*

FIRE, the other grand agent in the resolution of bodies, produces in vegetables decompositions of a different kind. Its general effects are the following.

VEGETABLE substances, burnt in the open air, are reduced partly into ASHES, and partly into FLAME and SMOKE; which last, condensed in long canals or otherwise, forms a nauseous bitter black SOOT. In the burning of most vegetables, an acid vapour accompanies the smoke; but the soot is never found to partake of it.

Vegetables, urged with a red heat in close vessels, (the vessel containing the subject being made to communicate with another placed beyond the action of the fire for receiving the matters forced out by the heat) give over a WATERY LIQUOR called phlegm; an ACID LIQUOR called spirit; an elastic incoercible vapour, which appears

to be inflammable or fixed airs, very often a composition of both, and to which an exit must be occasionally allowed, lest it burst the vessels or blow off the receiver; a *thin* OIL, and, at length, a very *thick dark-coloured oil*, both which are of an acrimonious taste, and a burnt fetid smell, whence they are called *empyreumatic oils*. There remains behind a black COAL, not dissoluble in any kind of liquors, not susceptible of putrefaction, not alterable by the most vehement degree of fire, so long as the air is excluded, but which, on admitting air to it, burns without flaming, and with little or no smoke, and leaves a very small quantity of white ashes; this is called charcoal, whose chemical properties seem always to be the same, from whatever vegetable it is procured.

The white ashes of vegetables, infused or boiled in water, impart to it a pungent saline substance, called **FIXED ALKALINE SALT**, which may be separated in a solid form by evaporating the water, from whence is produced pot-ash used in commerce, being this saline matter mixed with ferruginous, earthy, and other impurities; and likewise with a number of neutral salts of different kinds, from which being cleared by different processes, the fixed vegetable alkali remains; but from the ashes of kali, and other sea plants, a different alkali is produced, called **SODA OR NATRON**. The remaining part of the ashes, which is by far the largest in quantity, is a pure **EARTH**, differing from that which is the result of putrefaction, in being readily dissoluble by every acid liquor, while the other is not acted upon by an acid; and from whence some iron may be attracted by the magnet. With the vitriolic acid it is said to have formed alum; a kind of selenite has been obtained, but somewhat different from that produced by the union of the same acid with calcareous earth; this residuum of burnt vegetables differs from calcareous earth in being susceptible of becoming quick-lime, by calcination; and it has been found, instead of an earth, to be a calcareous phosphoric salt, similar to that obtained from the bones of animals.

Such is the general analysis of vegetables by fire. But there are some vegetables, which, as they seem to shew, during putrefaction, some analogy in their matter with that which constitutes animal bodies, discover also a like analogy in the present resolution, yielding little or no acid; and, instead of a fixed alkaline salt which remains in the ashes, affording a **VOLATILE ALKALINE SALT** which arises along with the aqueous and oily principles.

ALKALINE salts, and acid or sour substances, are looked upon as being opposite in their nature to one another. Most of the bodies which are dissoluble in alkaline liquors, are precipitated or thrown out from the solution on the addition of an acid; and most of those which are dissoluble in acids, are in like manner precipitated by alkalies. If an acid and an alkali be directly mixed together, there generally ensues an effervescence or tumultuary discharge of air-bubbles; though alkalies, both fixed and volatile, may be so prepared as

to make no effervescence with acids; and in this case they are far more pungent than in their common state.

In all cases, the alkali and acid, uniting together, compose a new body, called a NEUTRAL SALT, which has neither the sourness of the one ingredient, nor the peculiar pungency of the other, and which will not dissolve those substances which either the acid or the alkali separately would dissolve.

To these characters, it may be added, that alkaline salts change the colour of blue flowers or their infusions, as of violets, to a green, and acids to a red, while the neutral compound, formed by the coalition of the two, makes no alteration in the colour.

It must be observed, however, that to change blue flowers to a green, is not universally a mark of alkalies, for some solutions of earthy bodies in acids have the same effect; these last may be distinguished from alkalies, by adding to them a known alkali, which will immediately precipitate the earth, and form a neutral compound with the acid.

FIXED alkaline salts, perfectly purified, appear to be one and the same, from whatever kind of vegetable they were produced; those of some marine plants excepted, of which hereafter. In volatile alkalies, and in the pure earthy part of the ashes, there appears to be, respectively, the like identity.

Empyreumatic oils differ somewhat in the degree of acrimony and fetidness, and the acid spirits differ in degree of strength, or in the quantity of water with which they are diluted; how far they may differ in any other respects, is little known, these preparations having been rarely used or examined.

It has been said, that the alkaline salts, both of the fixed and of the volatile kind, are entirely creatures of the fire, being never found to exist naturally in any vegetable; but late experience contradicts this position, as will be seen when we come to speak of saline substances below: the oil, doubtless, pre-existed in the subject, but owes its acrimony and fetidness to the fire; for the most mild and insipid oils receive the same qualities on being urged with the same degree of heat: the acid, which is likewise naturally contained in vegetable subjects, proves always tainted, in the present process, with the ill smell and taste of the oil that accompanies it; but whether the acid itself suffers any change in its nature, is unknown.

When chemistry began first to be formed into a rational science, and to examine the component parts and internal constitution of bodies, it was imagined, that this resolution of vegetables by fire, discovering to us all their active principles, unclogged and unmixed with one another, would afford the surest means of judging of their medicinal powers. But, on prosecuting these experiments, it was soon found that they were insufficient for that end: that the analyses of poisonous and esculent plants agreed often as nearly with one another as the analyses of one plant: that by the action of a burning heat, two

principles of vegetables are not barely separated, but altered, transposed, and combined into new forms; insomuch that it was impossible to know in what form they existed, and with what qualities they were endowed, before these changes and transpositions happened. If, for example, thirty-two ounces of a certain vegetable substance be found to yield ten ounces and a half of acid liquor, above one ounce and five drams of oil, and three drams and a half of fixt alkaline salt; what idea can this analysis give of the medicinal qualities of *gum Arabic*?

III. *Substances naturally contained in Vegetables, and separable by Art without Alteration of their native Qualities.*

1. *Gross Oils.*

GROSS oils abound chiefly in the kernels of fruits and in certain seeds; from which they are commonly extracted by expression, and hence are distinguished by the name of *expressed oils*. They are contained also in all the parts of all vegetables that have been examined, and may be forced out by vehemence of fire; but here their qualities are greatly altered in the process by which they are extracted or discovered, as we have seen under the foregoing head.

These oils, in their common state, are not dissoluble either in vinous spirits or in water, though, by means of certain intermedia, they may be united both with the one and the other. Thus a skilful interposition of sugar renders them miscible with water into what are called lohochs and oily draughts: by the intervention of gum, mucilage, or the yolk of an egg, they unite with water into a milky fluid: by alkaline salts they are changed into a soap, which is miscible both with water and spirituous liquors, and is perfectly dissolved by the latter into an uniform transparent fluid. The addition of any acid to the soapy solution absorbs the alkaline salt; and the oil, which of course separates, is found to have undergone this remarkable change, that it now dissolves without any intermedium, in pure spirit of wine.

Expressed oils, exposed to the cold, lose greatly their fluidity: some of them, in a small degree of cold, congeal into a consistent mass. Kept for some time in a warm air, they become thin and highly rancid: their soft, lubricating, and relaxing quality is changed into a sharp acrimonious one: and in this state, instead of allaying, they occasion irritation; instead of obtunding corrosive humours, they corrode and inflame. These oils are liable to the same noxious alteration while contained in the original subject: hence the rancidity which the oily seeds and kernels, as almonds and those called the cold seeds, are so liable to contract in keeping. Nevertheless, on triturating these seeds or kernels with water, the oil, by the intervention of the other matter of the subject, unites with the water into an

emulsion or milky liquor, which, instead of growing rancid, turns sour on standing.

It seems then that some sort of fermentation goes on in the progress of oils in the rancid state, and from some experiments it would seem that an acid is evolved, which renders them more soluble in spirits of wine than before.

In the heat of boiling water, and even in a degree of heat as much exceeding this as the heat of boiling water does that of the human body, these oils suffer little dissipation of their parts. In a greater heat, they emit a pungent vapour, seemingly of the acid kind; and when suffered to grow cold again, they are found to have acquired a greater degree of consistence than they had before, together with an acrid taste. In a heat approaching to ignition, in close vessels, the greatest part of the oil arises in an empyreumatic state, a black coal remaining behind,

2. *Gross sebaceous Matter.*

FROM the kernels of some fruits, as that of the chocolate nut, we obtain, instead of a fluid oil, a substance of butyraceous consistence; and from others, as the nutmeg, a solid matter as firm as tallow. These concretes are most commodiously extracted by boiling the subject in water; the sebaceous matter, liquefied by the heat, separates and arises to the surface, and resumes its proper consistence as the liquor cools.

The substances of this class have the same general properties with expressed oils, but are less disposed to become rancid in keeping than most of the common fluid oils. It is supposed by the chemists, that their thick consistence is owing to a larger admixture of an acid principle: for, in their resolution by fire, they yield a vapour more sensibly acid than the fluid oils; and fluid oils, by the admixture of concentrated acids, are reduced to a thick or solid mass.

3. *Essential Oils.*

ESSENTIAL oils are obtained only from those vegetables, or parts of vegetables, that are considerably odorous. They are the direct principle, in which the odour, and oftentimes the warmth, pungency, and other active powers of the subject, reside; whence their name of essences or essential oils.

Essential oils unite with rectified spirit of wine, and compose with it one homogeneous transparent fluid; though some of them require for this purpose a much larger proportion of the spirit than others. The difference of this solubility perhaps depends on their quantity of disengaged acid, that being found not only to promote the solution of the essential oil, but even of those of the unctuous kind. Water also, though it does not dissolve their whole substances, may be made to imbibe some portion of their more subtil matter, so as to become

considerably impregnated with their flavour: by the admixture of sugar, gum, the yolk of an egg, or alkaline salts, they are made totally dissoluble in water. Digested with volatile alkalies, they undergo various changes of colour, and some of the less odorous acquire considerable degrees of fragrance; whilst fixt alkalies universally impair their odour.

In the heat of boiling water, these oils totally exhale; and on this principle they are commonly extracted from subjects that contain them; for no other fluid, that naturally exists in vegetables, is exhalable by that degree of heat, except the aqueous moisture, from which the greatest part of the oil is easily separated. Some of these oils arise with a much less heat, a heat little greater than that in which water begins visibly to evaporate. In their resolution by a burning heat, they differ little from expressed oils.

Essential oils, exposed for some time to a warm air, suffer an alteration very different from that which the expressed undergo. Instead of growing thin, rancid, and acrimonious, they gradually become thick, and at length harden into a solid brittle concrete; with a remarkable diminution of their volatility, fragrantcy, pungency, and warm stimulating quality. In this state, they are found to consist of two kinds of matter; a fluid oil, volatile in the heat of boiling water, and nearly of the same quality with the original oil; and of a grosser substance which remains behind, not exhalable without a burning heat, or such a one as changes its nature; and resolves it into an acid, an empyreumatic oil, and a black coal.

The admixture of a concentrated acid instantly produces, in essential oils, a change nearly similar to that which time effects. In making these kinds of commixtures, the operator ought to be on his guard: for when a strong acid, particularly that of nitre (of which hereafter) is poured hastily into an essential oil, a great heat and ebullition ensue, and often an explosion happens, or the mixture bursts into flame. The union of expressed oils with acids is accompanied with much less conflict.

4. Concrete essential Oil.

SOME vegetables, as roses and elecampane roots, instead of a fluid essential oil, yield a substance possessing the same general properties, but of a thick or sebaceous consistence. This substance appears to be of as great volatility, and subtility of parts, as the fluid oils: it equally exhales in the heat of boiling water, and concretes upon the surface of the collected vapour. The total exhalation of this matter, and its concreting again into its original consistent state, without any separation of it into a fluid and a solid part, distinguishes it from essential oils that have been thickened or indurated by age or by acids.

5. Camphor.

CAMPHOR is a solid concrete, obtained chiefly from the woody

parts of certain Indian trees. It is volatile like essential oils, and soluble both in oils and inflammable spirits: it unites freely with water by the intervention of gum, particularly myrrh, but very sparingly and imperfectly by the other intermedia that render oils miscible with watery liquors. It differs from the sebaceous, as well as fluid essential oils, in suffering no sensible alteration from long keeping; in being totally exhalable, not only by the heat of boiling water, but in a warm air, without any change or separation of its parts; the last particle that remains unexhaled appearing to be of the same nature with the original camphor; in its receiving no empyreumatic impression, and suffering no resolution, from any degree of fire to which it can be exposed in close vessels, though readily combustible in the open air; in being dissolved by concentrated acids into a liquid form; and in several other properties which it is needless to specify in this place.

6. *Aroma,*

OR Spiritus Rector, is the name given to the odorous principle of vegetables. These bodies differ greatly from one another in the quantity, strength, and solubility of the odorous principle which they contain. It is generally found united with volatile oils; but it is soluble in alcohol and water, as well as in these. The slightest degree of heat is sufficient to disengage the aroma of plants. To obtain it, the plant must be distilled in a *balneum Mariæ*, and its vapours received into a cold capital — which may condense, and afterwards conduct them in a fluid state into the receiver. The product is pure odoriferous water, and is known by the name of essential distilled water. This liquor is to be considered as a solution of the aroma or odorous principle in water. — When aromatic water is heated, it loses its smell in consequence of the odorous principle being more volatile than the fluid in which it was dissolved. This principle is also dissipated by exposure to the air. Many facts would induce us to believe that the principle of smell is one of the elementary principles of volatile oils; but we are as yet, almost completely ignorant of its chemical nature, properties, and combinations.

7. *Resin.*

ESSENTIAL oils, indurated by age or acids, are called resins. When the indurated mass has been exposed to the heat of boiling water, till its more subtle parts, or the pure essential oil that remained in it, has exhaled, the gross matter, left behind, is likewise called resin. We find, in many vegetables, resins analogous both to one and the other of these concretes; some containing a subtle oil, separable by the heat of boiling water; others containing nothing that is capable of exhaling in that heat.

Resins in general dissolve in rectified spirit of wine, though some

of them much more difficultly than others: it is chiefly by means of this dissolvent, that they are extracted from the subjects in which they are contained. They dissolve also in oils both expressed and essential; and may be united with watery liquors by means of the same intermedia which render the fluid oils miscible with water. In a heat less than that of boiling water, they melt into an oily fluid, and in this state they may be incorporated one with another. In their resolution by fire, in close vessels, they yield a manifest acid, and a large quantity of empyreumatic oil.

8. Gum.

GUM differs from the foregoing substances, in being uninflam-
mable: for though it may be burnt to a coal, and thence to ashes, it never yields any flame. It differs remarkably also in the proportion of the principles into which it is resolved by fire; the quantity of empyreumatic oil being far less, and that of acid far greater. In the heat of boiling water, it suffers no dissipation: nor does it liquefy like resins; but continues unchanged, till the heat is so far increased as to scorch or turn it to a coal.

By a little quantity of water, it is softened into a viscous adhesive mass, called *mucilage*: by a larger quantity it is dissolved into a fluid, which proves more or less glutinous, according to the proportion of gum. It does not dissolve in vinous spirits, or in any kind of oil: nevertheless, when softened with water into a mucilage, it is easily miscible both with the fluid oils and with resins, which, by these means, become soluble in watery liquors, along with the gum, and are thus excellently fitted for medicinal purposes.

This elegant method of uniting oils with aqueous liquors, formerly kept a secret in few hands, is now universally known; and a variety of experiments is related in the first volume of the London Medical Observations, of rendering oils, both essential and expressed, and different unctuous and resinous bodies, soluble in water by the mediation of gum. Mucilages have also been used for suspending crude mercury and some other ponderous and indissoluble substances; the mercury is, by this means, not a little divided; but it is found that the particles are apt to run together or subside, if a pretty constant agitation be not kept up.

As oily and resinous substances are thus united to water by the means of gum, so gums may in like manner be united to spirit of wine by the intervention of resins and essential oils; though the spirit does not take up near so much of the gum, as water does of the oil or resin.

Acid liquors, though they thicken pure oils or render them consistent, do not impede the dissolution of gum, or of oils blended with gum. Alkaline salts, on the contrary, both fixt and volatile, though they render pure oils dissoluble in water, prevent the solution of gum,

taste, is more fermentable, and much more nutritive. It abounds in very many vegetables, and is generally deposited in certain parts, seemingly for the purpose of its being more advantageously accommodated to their nourishment and growth. Several of the bulbous and other roots, such as those of potatoes, bryony, those from which cassava is extracted, salep, and many others, contain a great quantity of white *fæculæ* resembling and really possessing the properties of *farina*. The plants of the leguminous tribes, such as peas and beans, are found also to abound with this matter; but grains contain the largest quantity, which are therefore called *farinaceous*. Of this kind are wheat, rye, barley, oats, rice, and other similar plants.

The *farina* is composed of three parts, of a glutinous or vegetable-animal part—*amylum* or starch—and a mucous matter. Wheat affords the *farina* in the greatest quantity, and in its most perfect state; and hence is considered as the most nutritious.

12. *The Colouring Matter of Vegetables.*

THIS seems to be of an intermediate nature between the gummy and resinous parts. It is in many plants equally well extracted by water and by rectified spirits; it is also procurable in the form of a lake, not at all soluble in either of these menstrua. However, it is not necessary to say more on this subject, as it has little to do with pharmacy, it is appropriated more to the dyers use.

General Observations on the foregoing Principles.

1. **ESSENTIAL** oils, as already observed, are obtainable only from a few vegetables, and camphor from a much smaller number: but gross oil, resin, gum, and saline matter, appear to be common, in greater or less proportion, to all; some abounding more with one, and others with another.
2. The several principles are in many cases intimately combined; so as to be extracted together from the subject, by those dissolvents, in which some of them, separately, could not be dissolved. Hence watery infusions and spirituous tinctures of a plant contain more substances than those of which water or spirit is the proper dissolvent.
3. After a plant has been sufficiently infused in water, all that spirit extracts from the residuum may be looked upon as consisting wholly of such matter as directly belongs to the action of spirit. And on the contrary, when spirit is applied first, all that water extracts afterwards may be looked upon as consisting only of that matter of which water is the direct dissolvent.
4. If a vegetable substance, containing all the principles we have been speaking of, be boiled in water, the essential oil, whether fluid

or concrete, and the camphor, and volatile essential salt, will gradually exhale with the steam of the water, and may be collected by receiving the steam in proper vessels, placed beyond the action of the heat. The other principles not being volatile in this degree of heat, remain behind: the gross oil and sebaceous matter float on the top: the gummy and saline substance, and a part of the resin, are dissolved by the water, and may be obtained in a solid form by straining the liquor, and exposing it to a gentle heat till the water has exhaled. The rest of the resin, still retained by the subject, may be extracted by spirit of wine, and separated in its proper form, by exhaling the spirit. On these foundations, most of the substances contained in vegetables may be extracted, and obtained in a pure state, however they may be compounded together in the subject.

5. Sometimes one or more of the principles is found naturally disengaged from the others, lying in distinct receptacles within the subject, or extravasated and accumulated on the surface. Thus, in the dried roots of angelica, cut longitudinally, the microscope discovers veins of resin. In the flower-cups of hypericum, and the leaves of the orange-tree, transparent points are distinguished by the naked eye, which, on the first view, seem to be holes, but, on a closer examination, are found to be little vesicles filled with essential oil. In the bark of the fir, pine, larch, and some other trees, the oily receptacles are extremely numerous, and so copiously supplied with the oily and resinous fluid, that they frequently burst, especially in the warm climates, and discharge their contents in great quantities. The acacia tree in Egypt, and the plum and cherry among ourselves, yield almost pure gummy exudations. From a species of ash is secreted the saline sweet substance, manna; and the only kind of sugar with which the ancients were acquainted, appears to have been a natural exudation from the cane.

6. The foregoing principles are, so far as is known, all that naturally exist in vegetables; and all that art can extract from them, without such operations as change their nature, and destroy their original qualities. In one or more of these principles, the colour, smell, taste, and medicinal virtues of the subject, are almost always found concentrated.

7. In some vegetables, the whole medicinal activity resides in one principle. Thus, in sweet almonds, the only medicinal principle is a gross oil; in horse-radish root, an essential oil; in jalap root, a resin; in marshmallow root, a gum; in the leaves of sorrel, a saline acid substance.

8. Others have one kind of virtue residing in one principle, and another in another. Thus Peruvian bark has an astringent resin, and a bitter gum; wormwood, a strong flavoured essential oil, and a bitter gum-resin.

9. The gross insipid oils and sebaceous matters, the simple insipid gums, and the sweet and acid saline substances, appear to agree,

both in their medicinal qualities, as well as in their pharmaceutic properties.

10. But essential oils, resins, and gum-resins, differ greatly in different subjects. As essential oils are universally the principle of odour in vegetables, it is obvious that they must differ in this respect, as much as the subjects from which they are obtained. Resins frequently partake of the oil, and consequently of the differences depending thereon; with this further diversity, that the gross resinous part often contains other powers than those which reside in oils. Thus from wormwood, a resin may be prepared, containing not only the strong smell and flavour, but likewise the whole bitterness of the herb; from which last quality the oil is entirely free. The bitter, astringent, purgative, and emetic virtues of vegetables reside generally in different sorts of resinous matter, either pure, or blended with gummy and saline parts; of which kind of combinations, there are many so intimate, that the component parts can scarcely be separated from one another, the whole compound dissolving almost equally in aqueous and spirituous menstrua.

11. There are some substances also, which, from their being totally dissoluble in water, and not at all in spirit, may be judged to be mere gums; but which, nevertheless, possess virtues never to be found in the simple gums. Such are the astringent gum called acacia, and the purgative gum extracted from aloës.

12. It is supposed that vegetables contain certain subtile principles or presiding spirits, different in different plants, of too great tenuity to be collected in their pure state, and of which oils, gums, and resins are only the matrices or vehicles. This enquiry is foreign to the purposes of pharmacy, which is concerned only about grosser and more sensible objects. When we obtain from an odoriferous plant an essential oil, containing in a small compass the whole fragrance of a large quantity of the subject, our intentions are equally answered, whether the substance of the oil be the direct odorous matter, or whether it have diffused through it a fragrant principle more subtile than itself. And, when this oil, in long keeping, loses its odour, and becomes a resin, it is equal in regard to the present considerations, whether the effect happen from the avolation of a subtile principle, or from a change produced in the substance of the oil itself.

S E C T. II.

ANIMALS.

IN animal bodies we find certain substances, which have a great resemblance, in their genera properties, to those of the vegetable kingdom.

Animal oils and fats, like the gross oils of vegetables, are not, of themselves, dissoluble either in water or vinous spirits; but they may be united with water, by the intervention of gum or mucilage; and most of them may be changed into soap, and thus rendered miscible with spirit, as well as water, by fixt alkaline salts.

The odorous matter of some odoriferous animal substances, as musk, civet, castor, is, like essential oil, soluble in spirit of wine, and volatile in the heat of boiling water. Cartheuser relates that from castor an actual essential oil has been obtained, in a very small quantity, but of an exceedingly strong diffusive smell.

The vesicating matter of cantharides, and those parts of sundry animal substances, in which their peculiar tastes reside, are dissolved by rectified spirit, and seem to have some analogy with resins and gummy resins.

The gelatinous principle of animals, like the gum of vegetables, dissolves in water, but not in spirit or in oils: like gums also, it renders oils and fats miscible with water into a milky liquor.

Some insects, particularly the ant, are found to contain an acid juice, which approaches nearly to the nature of vegetable acids.

There are, however, sundry animal juices, which differ greatly, even in these general kinds of properties, from the corresponding ones of vegetables. Thus animal serum, which appears analogous to vegetable gummy juices, has this remarkable difference, that though it mingle uniformly with cold or warm water, yet, on considerably heating the mixture, the animal matter separates from the watery fluid, and concretes into a solid mass. Some have been apprehensive, that the heat of the body, in some distempers, might rise to such a degree as to produce this dangerous or mortal concretion of the serous humours: but the heat requisite for this effect is greater than the human body appears capable of sustaining; being nearly about the middle point between the greatest human heat commonly observed, and that of boiling water.

THE soft and fluid parts of animals are strongly disposed to run into putrefaction: they putrefy much sooner than vegetable matters, and, when corrupted, prove more offensive.

This process takes place, in some degree, in the bodies of living animals, as often as the juices stagnate long, or are prevented, by an obstruction of the natural excretories, from throwing off their more volatile and corruptible parts.

The doctrine of putrefaction, both in living and in dead animals, has received great light from the curious and interesting experiments and observations of Dr. Pringle. He observes, that if the corruption be great and sudden, a fever or a flux ensues; but that if the accumulation of corrupted matter be so slow, that the body becomes habituated to the putrefaction, a scurvy prevails. Hence the frequency of this last distemper, in long voyages, on board unventilated ships, from corrupted air and provisions; in marshy countries, from simi-

lar causes; and, in a less degree, in all northern climates, in moist situations, from a want of due perspiration.

During putrefaction, a quantity of air is generated; all the humours become gradually thinner, and the fibrous parts more lax and tender. Hence, the tympany, which succeeds the corruption of any of the viscera, or the imprudent suppression of dysenteries by astringents; and the weakness and laxity of the vessels observable in scurvy, &c.

The crassamentum of human blood changes by putrefaction into a dark livid-coloured liquor; a few drops of which tinge the serum of a tawny hue; like that of the ichor of sores and dysenteric fluxes, and of the white of the eye, the saliva, the serum of blood drawn from a vein, and that which oozes from a blister, in deep scurvy, and the advanced state of malignant fevers.

The putrid crassamentum changes a large quantity of recent urine to a flame-coloured water, so common in fevers and in the scurvy. This mixture, after standing an hour or two, gathers a cloud, resembling what is seen in the crude water of acute distempers; with some oily matter on the surface, like the scum which floats on scorbutic urine.

The serum of blood deposits, in putrefaction, a sediment resembling well-digested pus, and changes to a faint olive green. A serum, so far putrefied as to become green, is perhaps never to be seen in the vessels of living animals: but in dead bodies this serum is to be distinguished by the green colour which the flesh acquires in corrupting. In salted meats, this is commonly ascribed to the brine, but erroneously; for that has no power of giving this colour, but only of qualifying the taste, and in some degree the ill effects of corrupted aliments. In foul ulcers, and other sores, where the serum is left to stagnate long, the matter is likewise found of this colour, and is then always acrimonious.

The putrefaction of animal substances is prevented or retarded by all saline matters, even by the fixt and volatile alkaline salts, which have generally been supposed to produce a contrary effect. Of all the salts that have been made trial of, sea salt seems to resist putrefaction the least: in small quantities, it even accelerates the process. The vegetable bitters, as chamomile flowers, are much stronger antiseptics, not only preserving flesh long uncorrupted, but likewise somewhat correcting it when putrid: the mineral acids have this last effect in a more remarkable degree. Vinous spirits, aromatic and warm substances, most of the diaphoretic drugs, and the acrid plants, falsely called alkalescent, as scurvy-grass and horse-radish, are also found to resist putrefaction. Sugar and camphor are found to be powerful antiseptics. Fixed air, or aerial acid, is likewise thought to resist putrefaction; but, above all, the vapours of nitrous acid in the form of air, the nitrous air of Dr. Priestley, is found to be the most effectual in preserving animal bodies from corruption.—The list of septics, or of the substances that promote putrefaction, is

very short; and such a property has only been discovered in calcareous earths, and magnesia, and a very few salts whose bases are of these earths.

It is observable, that, notwithstanding the strong tendency of animal matters to putrefaction, yet broths made from them with the admixture of vegetables, instead of putrefying, turn sour. Dr. Pringle finds, that when animal flesh in substance is beaten up with bread, or other farinaceous vegetables, and a proper quantity of water, into the consistence of a pap, this mixture likewise, kept in a heat equal to that of the human body, grows in a little time sour; while the vegetable matters, without the flesh, suffer no such change. (See the Appendix to Dr. Pringle's Observations on the Diseases of the Army.)

ANIMAL substances, burnt in the open air, are resolved, like vegetables, into soot and ashes, but with this difference, that no fixt alkaline salt can be obtained from the ashes, and that no acid vapour accompanies the smoke. They emit, during the burning, a fetid smell, of a peculiar kind, by which animal substances may be distinguished at once from all those of the vegetable kingdom. In close vessels, they give over, after the watery moisture, a volatile alkaline salt, which either concretes into a solid form, or dissolves in the water, and thus composes what is called spirit; together with an empyreumatic oil, of a more fetid kind than the oils of vegetables: without the least footstep of acid throughout the whole process. A black coal remains, which, in the open air, burns into white ashes void of saline matter.

It was observed in the preceding section, that some few vegetables, in this resolution of them by fire, discover some agreement, in their matter, with bodies of the animal kingdom; yielding a volatile alkaline salt in considerable quantity, with little or nothing of the acid or fixt alkali, which the generality of vegetables afford. In animal substances also there are some exceptions to the general analysis: from animal fats, instead of a volatile alkali, an acid liquor is obtained, and their empyreumatic oil wants the peculiar offensiveness of the other animal oils.

S E C T. III.

MINERALS.

Oils and Bitumens.

IN the mineral kingdom is found a fluid oil, called naphtha or petroleum, floating on the surface of waters, or issuing from clefts of

rocks, particularly in the eastern countries, of a strong smell, very different from that of vegetable or animal oils, limpid almost as water, highly inflammable, not soluble in spirit of wine, and more averse to union with water than any other oils.

There are different sorts of these mineral oils, more or less tinged, and of a more or less agreeable, and a stronger or weaker smell. By the admixture of concentrated acids, which raise no great heat or conflict with them, they become thick, and at length consistent; and, in these stages, are called *bitumens*.

These thickened or concreted oils, like the corresponding products of the vegetable kingdom, are generally soluble in spirit of wine, but much more difficultly, more sparingly, and for the most part only partially: they liquefy by heat, but require the heat to be considerably stronger. In a proper degree of heat, they give out a fluid oil, greatly resembling the native petrolea; a small quantity of a black coaly matter remaining behind. Their smells are various; but all of them, either in their natural state, or when melted, or set on fire, yield a peculiar kind of strong scent, called, from them, *bituminous*.

The solid bitumens are amber,—jet,—asphaltum, or bitumen of Judea,—and fossil or pit-coal. —These, when distilled, give out an odorous phlegm, or water, more or less coloured and saline; an acid, frequently in a concrete state; an oil, at first resembling the native petrolea, but soon becoming heavier and thicker, and lastly, a quantity of volatile alkali is obtained; the residuum is a charry matter, differing in its appearances according to the nature of the bitumen which had been analysed.

Earths.

The little impropriety of joining the vegetable and animal earths to the mineral, must be overlooked for the sake of bringing both under one synoptical view. Under the mineral earths are included stones, these being no other than earths in an indurated state.—The different kinds of these bodies hitherto taken notice of, are the following:

I. *Earths soluble in the nitrous, marine, and vegetable acids, but not at all or exceedingly sparingly in the vitriolic acid. When previously dissolved in other acids, they are precipitated by the addition of this last, which thus unites with them into insipid, or nearly insipid concretes, not dissoluble in any liquor.* Of this kind are,

1. The mineral calcareous earth: distinguished by its being convertible, in a strong fire, without addition, into an acrimonious calx, called quicklime. This earth occurs in a variety of forms in the mineral kingdom. The fine soft chalk, the coarser limestones, the hard marbles, the transparent spars, the earthy matter contained in

waters, and which, separating from them, incrustates the sides of caverns, or hangs in icicles from the top, receiving from its different appearances different appellations—how strongly soever some of these bodies have been recommended for particular medicinal purposes,—are at bottom no other than different forms of this calcareous earth, simple pulverization depriving them of the superficial characters by which they were distinguished in the mass. Most of them contain generally a greater or less admixture of some of the indissoluble kinds of earth; which, however, affects their medicinal qualities no otherwise, than by the addition which it makes to their bulk. Chalk appears to be one of the purest, and is therefore in general preferred. They all burn into a strong quicklime: in this state, a part of them dissolves in water, which thus becomes impregnated with the astringent and lithontriptic powers that have been erroneously ascribed to some of the earths in their natural state.

During the calcination of calcareous earth, a large quantity of elastic vapours is discharged: the absence of this fluid renders it caustic, and soluble in water in the form of lime water.

2. The animal calcareous earth: *burning into quicklime, like the mineral.* Of this kind are oyster shells, and all the marine shells that have been examined; though with some variation in the strength of the quicklime produced from them.

3. The earth of bones and horns: *not at all burning into quicklime.* This kind of earth is more difficult of solution in acids than either of the preceding. It is accompanied in the subjects with a quantity of gelatinous matter, which may be separated by long boiling in water, and more perfectly by burning in the open air: the earth may be extracted also from the bone or horn, though difficultly, by means of acids; whereas vegetables, and the soft parts of animals, yield their pure earth by burning only.

II. *Earths soluble with ease in the vitriolic as well as other acids: and yielding, in all their combinations therewith, saline concretes soluble in water.*

1. *Magnesia alba: composing with the vitriolic acid a bitter purgative liquor.* This earth has not yet been found naturally in a pure state. It is obtained from the purging mineral waters and their salts, from the bitter liquor which remains after the crystallization of sea salt from sea water, and from the fluid which remains uncrystallized in the putrefaction of some sorts of rough nitre. The ashes of vegetables appear to be nearly the same kind of earth.

2. *Aluminous earth: composing with the vitriolic acid a very astringent liquor.* This earth also has not been found naturally pure. It is obtained from alum, which is no other than a combination of it with the vitriolic acid: it may likewise be extracted, by strong boiling in that acid, from clays and boles.

III. *Earths which by digestion in acids, either in the cold or in a moderate warmth, are not at all dissolved.*

1. Argillaceous earth : *becoming hard, or acquiring an additional hardness, in the fire.* Of this kind of earth there are several varieties, differing in some particular properties : as the purer *clays*, which, when moistened with water, form a very viscous mass, difficultly diffusible through a larger quantity of the fluid, and slowly subsiding from it : *boles*, less viscous, more readily miscible with water, and more readily subsiding : and *ochres*, which have little or nothing of the viscosity of the two foregoing, and are commonly impregnated with a yellow or red ferrugineous calx.

2. Crystalline earth : *naturally hard, so as to strike sparks with steel : becoming friable in a strong fire.* Of this kind are flints, crystals, &c. which appear to consist of one and the same earth, differing in the purity, hardness, and transparency of the mass.

3. Gypseous earth : *reducible by a gentle heat into a soft powder, which unites with water into a mass, somewhat viscous and tenacious while moist, but quickly drying and becoming hard.* A greater heat deprives the powder of this property, without occasioning any other alteration. Such are the transparent *selenites* ; the fibrous stony masses improperly called *English talc* ; and the granulated *gypsa* or *plaster of Paris* stones. Though these bodies, however, have been commonly looked upon as mere earths, of a distinct kind from the rest, they appear, both from analytical and synthetical experiments, to be no other than combinations of the mineral calcareous earth with vitriolic acid. (See the characters of the earths of the first class.)

4. Talky earth : *scarcely alterable by a vehement fire.* The masses of this earth are generally of a fibrous or leafy texture ; more or less pellucid, bright or glittering ; smooth and unctuous to the touch ; too flexible and elastic to be easily pulverised ; soft, so as to be cut with a knife. In these respects some of the gypseous earths greatly resemble them, but the difference is readily discovered by fire ; a weak heat reducing the gypseous to powder, while the strongest makes no other alteration in the talky, than somewhat diminishing their flexibility, brightness, and unctuousity.

Metals.

OF metals, the next division of mineral bodies, the most obvious characters are, their peculiar bright aspect, perfect opacity, and great weight ; the lightest of them is fix, and the heaviest upwards of nineteen times heavier than an equal bulk of water.

Metals are divided into the perfect, imperfect, and the semi-metals—

The perfect metals are those possessed of ductility, and malleability, which are not very sensibly altered by violent degrees of heat. Of these there are three — gold, silver, and platina. — The mark of their incapability of being destroyed by fire is only relative; — for modern chemists have been able, by a very intense degree of heat, to bring gold into a state of calx, or something very nearly resembling it.

They all melt in the fire; except platina, a metallic body, which has not been applied to any medical use, and which is therefore excluded from this general view of medicinal subjects.

The other metals, if air be admitted to them, are gradually converted, with different degrees of facility, into a powdery or friable substance, called *calx*, destitute of the metallic aspect, and much lighter in proportion to its bulk, than the metal itself. — Besides this method of calcining metals by air and fire, they may likewise be brought into the state of calx, by dissolving them in acids, from which they may be afterwards freed, by evaporating the acid, or by adding to the solution alkaline salt. — Metals are sometimes dephlogisticated by detonation. — This change in the obvious properties of metals is generally accompanied with a notable alteration in their medicinal virtues: thus quicksilver, which, taken into the body in its crude state and undivided, seems inactive, when calcined by fire, proves, even in small doses, a strong emetic and cathartic, and, in smaller ones, a powerful alterative in chronical disorders; while regulus of antimony, on the contrary, is changed, by the same treatment, from a high degree of virulence to a state of inactivity.

Calces of mercury and arsenic exhale in a heat below ignition; those of lead and bismuth, in a red or low white heat, run into a transparent glass: the others are not at all vitrescible, or not without extreme vehemence of fire. Both the calces and glasses recover their metallic form and qualities again, by the skilful addition of any kind of inflammable substance that does not contain a mineral acid. This recovery of these calces into their metallic form is called *reduction*. — During this process an elastic aerial fluid escapes, which is found to be pure air.

All metallic bodies dissolve in acids; some only in particular acids, as silver and lead in the nitrous; some only in compositions of acids, as gold in a mixture of the nitrous and marine; and others, as iron and zinc, in all acids. Some likewise dissolve in alkaline liquors, as copper; and others, as lead, in expressed oils. Fused with a composition of sulphur and fixt alkaline salt, they are all, except zinc, made soluble in water.

All metallic substances, dissolved in saline liquors, have powerful effects in the human body, though many of them appear in their pure state to be inactive. Their activity is generally in proportion to the quantity of acid combined with them. Thus lead, which in its crude form has no sensible effect, when united with a small portion of vegetable acid into ceruse, discovers a low degree of the styptic and malignant quality, which it so strongly exerts when

blended with a larger quantity of the same acid, into what is called *saccharum saturni*: and thus mercury, with a certain quantity of the marine acid, forms the violent corrosive sublimate, which, by diminishing the proportion of acid, becomes the mild medicine called *mercurius dulcis*.

Acids.

THE mineral acids are distinguished by the names of the concretes from which they have been principally extracted: the *vitriolic* from vitriol, the *nitrous* from nitre or saltpetre, and the *marine* from common sea salt.—The form they are generally in, is that of a watery fluid; they have all a remarkable attraction for water; they imbibe the humidity of the air with rapidity; and although heat be produced by their union with water, yet, when mixed with ice in a certain manner, they generate a prodigious degree of cold. Acids change the purple and blue colours of vegetables to a red; they resist fermentation; and, lastly, impress that peculiar sensation on the tongue called *Sourness*.—They are all highly corrosive, inasmuch as not to be safely touched, unless largely diluted with water, or united with such substances as obtund or suppress their acidity. Mixed hastily with vinous spirits, they raise a violent ebullition and heat, accompanied with a copious discharge of noxious fumes; a part of the acid unites intimately with the vinous spirit into a new compound, void of acidity, called dulcified spirit. It is observable, that the marine acid is much less disposed to this union with spirit of wine, than either of the other two: nevertheless, many of the compound salts resulting from the combination of earthy and metallic bodies with this acid, are soluble in that spirit, while those with the other acids are not. All these acids effervesce strongly with alkaline salts, both fixt and volatile, and form with them neutral salts, that is, such as discover no marks either of an acid or alkaline quality.

The nitrous and marine acids are obtained in the form of a thin liquor, the acid part being blended with a large proportion of water, without which it would be diffused into an incoercible vapour: the vitriolic stands in need of so much less water for its condensation as to assume commonly an oily consistence (whence it is called *oil* of vitriol), and, in some circumstances, even a solid one. Alkaline salts, and the soluble earths and metals, absorb from the acid liquors only the pure acid part; so that the water may now be evaporated by heat, and the compound salt left in a dry form.

From the coalition of the different acids with these three alkalies, and with the several soluble earths and metallic bodies, result a variety of saline compounds, the principal of which will be particularised in the sequel of this work.

The *vitriolic acid*, in its concentrated liquid state, is much more ponderous than the other two, emits no visible vapours in the heat

of the atmosphere, but imbibes moisture therefrom, and increases in its weight: the *nitrous* and *marine* emit copious corrosive fumes, the nitrous yellowish red, and the marine white vapours. If bottles, containing the three acids, be stopp'd with cork, the cork is found in a little time tinged *black* by the *vitriolic*, corroded into a *yellow* substance by the *nitrous*, and into a *whitish* one by the *marine*.

There are, however, a few other mineral acids, which are of importance to be known. These are *aqua regia*, *acid of borax*, *sparry acid*, and *fixed air*.

Aqua regia is formed of certain proportions of muriatic and nitrous acids.

The *sparry acid* is extracted from a fossil called sparry fluor, or vitreous spar. It is not yet determined whether it is a distinct acid; but as neither of these acids has any place in pharmacy, it will be unnecessary in this place to take any further notice of them.

The *acid of borax*, or *sedative salt of Homburg*, may be extracted from borax, a neutral salt, whose base is mineral alkali.—It has also been found native in the water of several lakes of Tuscany. It is a light crystallised concrete salt; its taste is sensibly acid; it is difficultly soluble in water; but the solution changes blue vegetable colours to red; it was supposed to be an anodyne, and refrigerant remedy, but its estimation is very slight in the present practice.

FIXED AIR is a permanently elastic fluid, being only fixed, when in a state of combination with calcareous earth, or other substances from whence it may be extricated.

According to the substances from which it is disengaged, and from different opinions concerning its nature, it has been denominated—gas sylvestre,—fixed air,—the acid of chalk,—mephitic gas,—mephitic acid,—and aërial acid. It may be extricated by heat, or by other acids, from all calcareous earths, such as chalk, marble, lime-stones, sea-shells, &c. also from mild fixed vegetable, and volatile alkalies, and from magnesia alba.

When disengaged, it assumes its real character, that of a permanently elastic fluid. It is separated in a great quantity during the vinous fermentation of vegetable substances. When calcareous earth is deprived of this aërial acid by heat, it is converted into that caustic substance called quick-lime. When alkalies fixed or volatile, are deprived by any means of this aërial acid, they are rendered much more caustic, incapable of crystallization, and of effervescing with other acids. They are also in this deaërated state much more powerful in dissolving other bodies. By re-combining the above substances with this aërial acid, they again resume their original properties; but as magnesia is not rendered caustic by calcination, the terms would be better changed to aërated, and deaërated, than mild and caustic; the aërial is more disposed to unite with quick lime than with any other substance; next to that, its attraction is for fixed alkali; then for magnesia; and lastly for volatile

alkali. These relative powers of the different substances to unite with this aerial acid, lay the foundation of many important processes in pharmacy. Water impregnated with aerial acid is capable of dissolving iron; and in this way are formed native and artificial chalybeate waters: zinc is also soluble in the same liquid. This acid is easily expelled from the water by removing the pressure of the atmosphere; by boiling, and even by time alone, if the vessel be not kept close shut. Fixed air extinguishes flame, vegetable, and animal life, and ought therefore to be cautiously managed; like other acids, it changes the blue colour of vegetables to a red, and communicates an acidulous taste to water impregnated with it; so feeble is the attraction of aerial acid to quick-lime, that any acid will disengage it. From what has been said, it will appear obvious, that mild and effervescing alkalies, whether fixed or volatile, are no more than neutral salts compounded of aerial acid, and pure or caustic alkali: like other acids, it unites with these bodies, diminishes their causticity, and effects their crystallization.

Of the Affinities of Bodies.

It is already laid down as a character of one of the classes of earths, that the vitriolic acid precipitates them when they are previously dissolved in any other acid. It is obvious, that, on the same principle, this particular acid may be distinguished from all others. This character serves not only for the acid in its pure state, but likewise for all its combinations that are soluble in water. If a solution of any compound salt, whose acid is the vitriolic, be added to a solution of chalk in any other acid, the vitriolic acid will part from the substance with which it was before combined, and join itself to the chalk, forming therewith a compound, which, being no longer dissoluble in the liquor, renders the whole milky for a time, and then gradually subsides.

This acid may be distinguished also, in compound salts, by another criterion not less strongly marked. If any salt containing it be mixed with powdered charcoal, and the mixture exposed, in a close vessel, to a moderate strong fire, the acid will unite directly with the inflammable part of the charcoal, and compose therewith a genuine sulphur. Common brimstone is no other than a combination of the vitriolic acid with a small proportion of inflammable matter. With any kind of inflammable matter that is not volatile in close vessels, as the coal of vegetables, of animals, or of bitumens, this acid composes always the same identical sulphur.

The nitrous acid also, with whatever kind of body it be combined, is both distinguished and extricated therefrom by means of any inflammable substance brought to a state of ignition: if the subject be mixed with a little powdered charcoal, and made red-hot, a deflagration or fulmination ensues, that is, a bright flame with a hissing noise; and the inflammable matter and the acid being

thus consumed or dissipated together, there remains only the substance that was before combined with the acid, and the small quantity of the ashes afforded by the coal.

This property of the nitrous acid, of deslagrating with inflammable substances, and that of the vitriolic, of forming sulphur with them, serve not only as criteria of the respective acids in the various forms and disguises, but likewise for discovering inflammable matter in bodies, when its quantity is too small to be sensible on other trials.

If a fixt alkaline salt be united with a vegetable acid, as that of vinegar, into a neutral salt; on adding to this compound some marine acid, the acetous acid will be disengaged, so as to exhale totally in a moderate heat, leaving the marine in possession of the alkali: the addition of the nitrous will, in like manner, dispossess the marine, which now arises in its proper white fumes, though, without such an addition, it could not be extricated from the alkali by any degree of heat: on the addition of the vitriolic acid, the nitrous gives way in its turn, exhaling in red fumes, and leaving only the vitriolic acid and the alkali united together.

Again, if any metallic body be dissolved in an acid, the addition of any earthy body that is dissoluble in that acid will precipitate the metal; a volatile alkaline salt will, in like manner, precipitate the earth: and a fixt alkali will dislodge the volatile; which last being readily exhalable by heat, the remaining salt will be the same as if the acid and fixt alkali had been joined together at first, without the intervention of any of the other bodies.

THE power in bodies, on which these various transpositions and combinations depend, is called by the chemists *AFFINITY*; a term, like the Newtonian *attraction*, designed to express, not the cause, but the effect. When an acid spontaneously quits a metal to unite with an alkali, they say it has *greater affinity* to the alkali than to the metal: and when, conversely, they say it has a greater affinity to fixt alkalies than to those of the volatile kind, they mean only that it will unite with the fixt in preference to the volatile, and that, if previously united with a volatile alkali, it will forsake this for a fixt one.

The doctrine of the affinities of bodies is of very extensive use in the chemical pharmacy: many of the officinal processes, as we shall see hereafter, are founded on it: several of the preparations turn out very different from what would be expected by a person unacquainted with these properties of bodies; and several of them, if, from an error in the process, or other causes, they prove unfit for the use intended, may be rendered applicable to other purposes, by such transpositions of their component parts as are pointed out by the knowledge of their affinities.

I shall here, therefore, subjoin a table of the principal affinities observed in pharmaceutical operations, formed chiefly on that of

Mr. Geoffroy (which was published in the Memoirs of the French Academy for the Year 1718), with such corrections and additions as later experiments have furnished.

The table is thus to be understood: The substance printed in capitals, on the top of each series, has the greatest affinity with that immediately under it, a less affinity with the next, and so on to the end of the series; that is, if any of the remote bodies have been combined with the top one, the addition of any of the intermediate bodies will disunite them; the intermediate body uniting with the uppermost body of the series, and throwing out the remote one. Thus, in the first series of the affinities of water, a fixt alkali being placed between the water and inflammable spirit, it is to be concluded, that, wherever water and spirit are mixed together, the addition of any fixt alkaline salt will absorb the water, and occasion the pure spirit to be separated. Where several substances are expressed in one series, it is to be understood, that any one of those bodies, which are nearest to the uppermost, will in like manner disengage from it any one of those which are more remote.

Table of Affinities.

1. WATER:	Zinc and Iron:
Fixt alkaline salt:	Copper:
Inflammable spirit.	Silver.
2. WATER:	6. NITROUS ACID:
Inflammable spirit:	Inflammable principle:
Volatile alkaline salt.	Fixt alkaline salts:
3. WATER:	Calcareous earths calcined:
Inflammable spirit:	Volatile alkaline salts:
Sundry compound salts.	Calcareous earths uncalcined:
4. INFLAMMABLE SPIRIT:	Zinc:
Water:	Iron:
Oils and Refins.	Copper:
5. VITRIOLIC ACID:	Lead:
Inflammable principle:	Mercury:
Fixt alkaline salts:	Silver:
Calcareous earths calcined:	Camphor.
Volatile alkaline salts:	7. MURIATIC ACID:
Calcareous earths uncalcined:	Fixt alkaline salts:
	Calcareous earths calcined:
	Volatile alkaline salts:
	Calcareous earths uncalcined:
	Zinc:

Iron :
 Tin :
 Regulus of antimony :
 Copper :
 Lead :
 Silver :
 Mercury.

Mercury :
 Arsenic.

13. GOLD :

Ethereal spirit :
 Acids.

14. MERCURY :

8. ACETOUS ACID :

Iron :
 Copper.

Muriatic acid :
 Vitriolic acid :
 Nitrous acid.

9. ALKALINE SALTS :

15. LEAD :

Vitriolic acid :
 Nitrous acid :
 Muriatic acid :
 Vinegar :
 Tartar :
 Oils and Sulphur.

Vitriolic acid :
 Muriatic acid :
 Nitrous acid :
 Vinegar :
 Oils.

10. SOLUBLE EARTHS :

16. SILVER :

Vitriolic acid :
 Nitrous acid :
 Muriatic acid.

Muriatic acid :
 Vitriolic acid :
 Nitrous acid.

11. INFLAMMABLE PRINCIPLE :

17. COPPER :

Nitrous acid :
 Vitriolic acid :
 Muriatic substances :
 Fixt alkaline salts.

Vitriolic acid :
 Muriatic acid :
 Nitrous acid.

12. SULPHUR :

18. IRON :

Fixt alkali, and Quicklime :
 Iron :
 Copper :
 Lead :
 Silver :
 Regulus of antimony :

Vitriolic acid :
 Muriatic acid :
 Nitrous acid.

19. REGULUS OF ANTIMONY :

Vitriolic acid :
 Nitrous acid :
 Muriatic acid.

This table is sufficient to shew the nature of simple affinities ; but there are others much more extensive, which the nature of this work will not admit ; we therefore recommend our readers to the works of Bergman, and other of the more modern chemists, for further information.

CHAPTER III.

Of the Pharmaceutical Apparatus.

ONE of the principal parts of the pharmaceutic apparatus consists in contrivances for containing and applying fire, and for directing and regulating its power. Of these contrivances, called *furnaces*, there are different kinds, according to the convenience of the place, and the particular purposes they are intended to answer. I shall here endeavour to give a general idea of the structure of those which are employed in pharmaceutical operations, and of the principles on which they are built.

Furnaces.

THE most simple furnace is the common stove, otherwise called the furnace for OPEN FIRE. This is usually made of an iron hoop, five or six inches deep: with a grate or some iron bars across the bottom, for supporting the fuel. It either stands upon feet, so as to be moveable from place to place; or is fixt in brickwork. In this latter case, a cavity is left under the grate, for receiving the ashes that drop through it; and an aperture or door, in the fore part of this ash-pit, serves both for allowing the ashes to be occasionally raked out, and for admitting air to pass up through the fuel. This furnace is designed for such operations as require only a moderate heat; as infusion, decoction, and the evaporation of liquids.

A deeper hoop or body, cylindrical, parallelipedal, widening upwards, elliptical, or of other figures; formed of, or lined with, such materials as are capable of sustaining a strong fire; with a grate and ash-pit beneath, as in the preceding; and communicating at the top with a perpendicular pipe, or chimney; makes a WIND FURNACE.

The greater the perpendicular height of the chimney, the greater will be the draught of air through the furnace, and the more intensely will the fire burn; provided the width of the chimney is sufficient to allow a free passage to all the air that the furnace can receive through the grate: for which purpose, the area of the aperture of the chimney should be nearly equal to the area of the interstices of the grate.

Hence, where the chimney consists of moveable pipes, made to fit upon one another at the ends, so that the length can be occasionally increased or diminished, the vehemence of the fire will be increased or diminished in the same proportion.

In furnaces whose chimney is fixed, the same advantage may be procured on another principle. As the intensity of the fire depends wholly upon the quantity of air successively passing through and animating the burning fuel, it is obvious, that the most vehement fire may be suppressed or restrained at pleasure, by more or less closing either the ash-pit door by which the air is admitted, or the chimney by which it passes off; and that the fire may be more or less raised again, by more or less opening those passages. A moveable plate, or REGISTER, in any convenient part of the chimney, affords commodious means of varying the width of the passage, and consequently of regulating the heat. But this is most conveniently accomplished by keeping the ash-pit door entirely shut, and regulating the heat by a range of holes in a damping plate; each hole being provided with a proper pin, by which it may be closed at pleasure. These holes may be made of different sizes; the smallest hole may be considered as one; the second as twice the size; the next to that double to the second, &c. and by combining these holes we can let in any quantity of air, from 1 to 128—as 1, 2, 4, 8, 16, 32, 64, 128.

THERE are two general kinds of these wind furnaces; one, with the chimney on the top, over the middle of the furnace; the other with the chimney on one side, and the mouth clear.

In the former, either the upper part of the furnace is contracted to such an aperture, that the chimney may fit upon it; or it is covered with an arched dome, or with a flat plate, having a like aperture in the middle. As in this disposition of the chimney, the inside of the furnace cannot be come at from above, a door is made in the side, a little above the grate, for supplying fuel, inspecting the matter in the fire, &c.

For performing FUSIONS in this furnace, the crucible, or melting vessel, is placed immediately among the fuel, with a slip of brick, or some other like support, between it and the grate, to keep the cold air, which enters underneath, from striking on its bottom.

When designed as a REVERBERATORY, that is, for distillation in long necks or coated glass retorts, two iron bars are placed across above the fire, for supporting the vessel, whose neck comes out at an aperture made for that purpose in the side. This aperture should be made in the side opposite to that in which is the door above mentioned, or at least so remote from it, that the receiver, fitted on the neck of the distilling vessel without the furnace, may not lie in the operator's way when he wants to stir the fire, or throw in fresh fuel.

The other kind of wind furnace communicates, by an aperture in its back part near the top, either with an upright pipe of its own, or with the chimney of the room; in which latter case, all other passages into the chimney must be closed. Here the mouth of the

furnace serves for a door, which may be occasionally covered with a plate or tile. Of this kind is the furnace most commonly used for fusion in a crucible.

THIS last construction, by leaving the mouth of the furnace clear, affords the convenience of letting into it a boiling or evaporating pan, a copper still, an iron pot for distilling hartshorn, an iron sand pot, or other like vessels, of such a size, that they may be supported on the furnace by their rims. The mouth being thus occupied by the vessels, a door must be made in the side for supplying and stirring the fuel.

When a furnace of this kind is designed only for a SAND BATH, it is most commodious to have the sand placed on a long iron plate furnished with a ledge of freestone or brickwork at each side. The mouth of the furnace is to be closely covered by one end of this plate; and the canal, by which the furnace communicates with its chimney, is to be lengthened and carried along under the plate; the plate forming the upper side of the canal. In this kind of sand-bath, digestions, &c. requiring different degrees of heat, may be carried on at once; for the heat decreases gradually from the end over the furnace to the other.

When large vessels, as STILLS, and iron pots for distilling hartshorn and aqua-fortis, are fixed in furnaces, a considerable part of the bottom of the vessel is commonly made to rest upon solid brickwork.

The large still, whose bottom is narrow in proportion to its height, and whose weight when charged with liquor requires great part of it to be thus supported, exposes but a small surface to the action of the fire underneath. To make up for this disadvantage, the heat, which rises at the further end of a long narrow grate, is conveyed all round the sides of the vessel, by a spiral canal, which communicates at top with a common chimney.

The pots for distilling hartshorn and aqua-fortis in the large way have part of their great weight borne up by three strong pins or trunnions, at equal distances round the pot towards the middle, reaching into a brickwork; so that less support being necessary underneath, a greater surface of the wide bottom lies exposed to the immediate action of the fire.

If a furnace, communicating with its chimney by a lateral canal, as in the sand furnace above-mentioned, be carried to a considerable height above the part where this canal enters it; and it be filled with fuel to the top, and closely covered; the fuel will burn no higher than up to the upper side of the canal through which the air passes off, and, in proportion as this lower part of the fuel consumes, it will be supplied by that above, which falls down in its place. Hence, in this furnace, called an *ATHANOR*, a constant heat may be kept up for a considerable length of time, without attendance.

The tower of the athanor, or that part which receives the fuel, is commonly made to widen a little downwards, that the coals may fall the more freely; but not so much as that the part on fire at bottom may be too strongly pressed. A small aperture is made opposite to the canal or flue, or a number of openings according to the size of the furnace and the degree of heat required, for supplying air, which is more conveniently admitted in this manner than through the grate, as the interstices of the grate are in time choaked up by the ashes.

This furnace is designed only for heating bodies exterior to it. Its canal, or *flue*, as in the sand furnace already described, passes under a sand-bath or water-bath: at the further end of which, it rises perpendicularly to such a height, as may occasion a sufficient draught of air through the fire.

The flue may be so wide, as to correspond to the whole height of the fire-place. A register or sliding plate, placed between the flue and the furnace, enables us to increase or diminish this height, and consequently the quantity of fire, at pleasure. If the space beneath the flue be inclosed to the ground, the heat in this cavity will be considerable enough to be applicable to some useful purposes.

WITH regard to the materials of furnaces, the first ones are built of bricks, cemented together by some good loam or clay. Any kind of loam or clayey composition that is of a proper degree of tenacity, which, when made into a paste with water and well worked, does not stick to the fingers, and which, when thoroughly dried, neither cracks nor melts in a vehement fire, is fit for this use: the purer and more tenacious clays require to have their tenacity lessened by an admixture of sand, or rather of the same kind of clay burnt and grossly powdered.

Smaller portable furnaces are made of strong iron or copper plates, lined to the thickness of an inch or more with the same kind of clayey composition: which, for this use, may be beaten with some horse-dung, chopt straw, or cut hair or tow.

Very commodious portable furnaces, for a business of moderate extent, may be formed also of the larger kind of the common black-lead melting pots, by cutting a door at the bottom of the pot for the ash-pit, another above this for the fire-place, and introducing a circular iron grate, of such a size, that it may rest between the two doors. [A particular account of the method of preparing these furnaces for different uses may be seen in the first part of the *Commercium Philosophico-technicum*; and under the word *FURNACE* in the *Encyclopædia Britannica*.]

Baths.

WHERE a strong degree of heat is requisite, as in the fusion of metals, &c. the vessel containing the subject-matter is placed among

the burning fuel, or immediately over it: this is called *operating in a naked fire*. Where a smaller heat is sufficient, and the vessel employed is either of glass, or of the more tender kinds of earthenware, the sand-bath or water-bath is used, to defend the vessel from the immediate action of the fire, and to render the heat less fluctuating.

Both these baths have their particular advantages and inconveniences. In water, the heat is equal through every part of the fluid; whereas in sand, it varies in different parts of one perpendicular line, decreasing from the bottom to the top. Water cannot be made to receive or to transmit to vessels immersed in it, above a certain degree of heat, viz. that which is sufficient to make it boil, and hence it secures effectually against any danger of an excess of heat in those operations wherein the product would be injured by a heat greater than that of boiling water: but this advantage renders it useless for processes which require a greater heat, and for which sand, or other like solid intermedia, are necessarily employed. There is this convenience also in the sand-bath, that the heat may be readily diminished or increased about any particular vessel, by raising it higher out of the sand, or sinking it deeper; that different subjects may be exposed to different degrees of heat from one fire; and that it keeps the vessels steady. The sand made choice of should be a large coarse-grained kind, separated from the finer parts by washing, and from little stones by the sieve.

Coating of Glasses, and Lutes.

SOME processes require to be performed with glass vessels in a naked fire. For these purposes, vessels made of the thinnest glass should be chosen; for these bear the fire, without cracking, much better than those which are thicker and in appearance stronger.

All glasses, or other vessels that are apt to crack in the fire, must be cautiously nealed, that is, heated by slow degrees: and when the process is finished, they should be as slowly cooled, unless where the vessel is to be broken to get out the preparation, as in some sublimations: in this case it is more adviseable to expose the hot glass suddenly to the cold air, which will soon occasion it to crack, than to endanger throwing down the sublimed matter among the faces by a blow.

As a defence from the violence of the fire, and to prevent the contact of cold air on supplying fresh fuel, &c. the glass is to be coated over, to the thickness of about half a crown, with Wind-for loam, softened with water into a proper consistence, and beaten up with some horse-dung, or with the other clayey compositions already mentioned.

These compositions serve also as a lute, for securing the junctures of the vessels in the distillation of the volatile salts and spirits of

animals: for the distillation of acid spirits, the matter may be moistened with a solution of fixt alkaline salt instead of water. For most other purposes, a piece of wet bladder, or a paste of flour and water, or of linseed meal (that is, the cake left after the expression of oil of linseed), are sufficient lutes.

Clay and chalk are sometimes mixed up into a paste, and spread upon slips of paper; and sometimes gum arabic is used instead of clay, and mixed up in the same manner. Where very elastic steams are to be condensed, we are often obliged, even where the common lutes are employed, to leave or make an opening, which may be occasionally stopped by a plug: by this means a passage may be given to a part of these vapours, which prevents the bursting of the vessels, and facilitates the condensation of the rest. If we wish to collect incondensable vapours, we receive them into a jar inverted under a basin of water, or quicksilver, as is usually done in the analysis of vegetables by fire.

Vessels.

It would be needless to enter here into a particular detail of the pharmaceutical instruments, as we shall have occasion to mention the principal of them in the following chapter, in speaking of the several operations to which they are respectively subservient. In this place I shall only give the operator a few general cautions with regard to the *matter* of the vessels designed for containing the subject.

Metalline vessels possess the advantage of being able to bear sudden alterations of heat and cold, and of being very strong, so as to be capable of confining elastic steams; but, except those of gold or silver, are corroded by acids, even by the mild ones of the vegetable kingdom. Copper ones are corroded also by alkaline liquors, and by some neutral ones, as solutions of sal ammoniac: it is observable, that vegetable acids do not act upon copper by boiling, so much as by standing in the cold; for even lemon-juice may be boiled in a clean copper vessel, without receiving from it any taste or ill quality; whereas, in the cold, it soon dissolves so much as to contract a pernicious taint. The tin, with which copper vessels are usually lined, gives likewise a sensible impregnation to acid juices; and this impregnation also is probably not innocent, more especially as a quantity of lead is commonly mixed with the tin.

From the want of transparency in these vessels, we are also deprived of the advantage of seeing the different changes during the operation.

The common EARTHEN vessels are of a loose porous texture, and hence are apt to imbibe a considerable quantity of certain liquids, particularly of those of the saline kind; which soon discover their penetrating the vessel, by shooting into saline efflorescences on the

outside. Those which are GLAZED have their glazing corroded by acids; by vinegar, and the acid juices of fruits, as well as by the stronger acids of the mineral kingdom. And as this glazing consists chiefly of vitrified lead, the impregnation, which it communicates to these liquors, is of a very dangerous kind: if vinegar be boiled for some time in a glazed earthen vessel, it will yield, on being inspissated, a true *saccharum saturni*, that is, a salt composed of lead and the acetous acid: but of all kinds of earthen-ware, the most perfect is porcelain; composed of the finest clay mixed with a stony matter, capable of melting in a violent heat.

A method has been discovered of imitating porcelain, by melting the coarser kinds of glass with a mixture of sand and clay:—this is much stronger than glass, and bears the most sudden changes of heat and cold that we have occasion to apply.

The vessels called, from their hardness and compactness, *STONE WARE*, are in good measure free from the inconveniences of the coarser earthen ones. Their glazing, being a part of the clay itself superficially vitrified by means of the fumes of common salt, appears to be proof against acids.

GLASS vessels suffer no corrosion, and give no taint in any of the pharmaceutical operations. When therefore they are made of a proper thinness, when they are well annealed, and when blown into a spherical form, so that the heat may be equally applied, they are preferable to all others, where great and sudden changes of heat and cold are not to take place, and where strength is not required: what is called the *flint glass*, which contains a quantity of lead in its composition, is the best for chemical purposes. Glass vessels, therefore, in such processes as will admit their use, ought always to be preferred.

Weights.

Two different kinds of weights are made use of in this country; one in the merchandise of gold and silver; the other for almost all goods besides. The first we call *Troy*, the latter *Averdupois* weight.

The goldsmiths divide the *Troy* pound into twelve ounces; the ounce into twenty penny-weights; and the penny-weight into twenty-four grains. The *Averdupois* pound is divided into sixteen ounces; and the ounce into eight parts, called drachms.

The pound of the London and Edinburgh dispensatories (which is the only one made use of in this work) is that of the goldsmiths, divided in the following manner;

The Pound	} contains	twelve Ounces.
The Ounce		eight Drachms.
The Drachm		three Scruples.
The Scruple		twenty Grains.
The grain is equal to the goldsmith's grain.		

The medical or Troy pound is less than the Averdupois, but the ounce and the drachm greater. The Troy pound contains 5670 grains; the Averdupois 7000 grains. The Troy ounce contains 480 grains; the Averdupois only 437½. The Troy drachm 60; the Averdupois drachm somewhat more than 27. Eleven drachms Averdupois are equal to five drachms Troy; twelve ounces Averdupois to nearly eleven ounces Troy; and nineteen pounds Averdupois to somewhat more than twenty-three pounds Troy.

These differences in our weights have occasioned great confusion in the practice of pharmacy. As the druggists and grocers sell by the Averdupois weight, the apothecaries have not in general kept any weights adjusted to the Troy pound greater than two drachms, using for all above Averdupois. By this means it is apparent, that in all compositions, where the ingredients are prescribed some by pounds and others by ounces, they are taken in a wrong proportion to each other; and the same happens when they are directed in lesser denominations than the ounce, as these subdivisions, used by the apothecaries, are made to a different ounce. But these differences are now happily removed.

Measures.

THE measures employed with us in pharmacy are the common wine measures,

A Gallon	} contains	eight Pints (<i>libra</i>).
The Pint		sixteen Ounces.
The Ounce		eight Drachms.

By a spoonful is understood, in the London dispensatory, the measure of half an ounce; in the Edinburgh, half an ounce weight in syrups, and three drams in distilled waters.

Though the pint is called by Latin writers *libra* or pound, there is not any known liquor of which a pint measure answers to that weight. A pint of the highest rectified spirit of wine exceeds a pound by above half an ounce; a pint of water exceeds it by upwards of three ounces; and a pint of oil of vitriol weighs more than two pounds and a quarter.

In the last edition of the Edinburgh Pharmacopœia, measures are entirely rejected; and the Troy weight is used in directing the quantity either of solid or fluid substances.—All possible care is however taken, that the proportions of the simples and strength of the compounds should neither be increased nor diminished by this alteration.

A table of the weights of certain measures of different fluids may on many occasions be useful, both for assisting the operator in regulating their proportions in certain cases, and for shewing the comparative gravities of the fluids themselves. I have therefore drawn

up such a table for a pint, an ounce, and a drachm measure, of those liquids whose gravity has been determined by experiments that can be relied on. The wine gallon contains 231 cubic inches, whence the pint contains $28\frac{7}{8}$; the ounce $1\frac{1}{2}\frac{3}{8}$; and the dram $1\frac{3}{4}\frac{1}{4}$ of a cubic inch.

Table of the weights of different fluids.

	Pint weighs			Ounce measure weighs	Drachm measure weighs
	ounces.	drachms.	grains.	grains.	grains.
INFLAMMABLE SPIRITS.					
Æthereal Spirit of Wine	11	1	36	336	42
Highly-rectified Spirit of Wine	12	5	20	380	47 $\frac{1}{2}$
Common-rectified Spirit of Wine	13	2	40	400	50
Proof Spirit	14	1	36	426	53 $\frac{1}{2}$
Dulcified Spirit of Salt	14	4	48	438	55 $\frac{1}{2}$
Dulcified Spirit of Nitre	15	2	40	460	57 $\frac{1}{2}$
WINES.					
Burgundy	14	1	36	426	53 $\frac{1}{2}$
Red Port	15	1	36	456	57
Canary	15	6	40	475	59 $\frac{1}{2}$
EXPRESSED OILS.					
Oil Olive	14	0	0	420	52 $\frac{1}{2}$
Linseed Oil	14	2	8	428	53 $\frac{1}{2}$
ESSENTIAL OILS.					
Oil of Turpentine	12	1	4	364	45 $\frac{1}{2}$
of Orange Peel	-	-	-	408	51
of Juniper Berries	-	-	-	419	52 $\frac{3}{4}$
of Rosemary	-	-	-	430	53 $\frac{3}{4}$
of Origanum	-	-	-	432	54
of Caraway Seeds	-	-	-	432	54
of Nutmegs	-	-	-	436	54 $\frac{1}{2}$
of Savin	-	-	-	443	55 $\frac{1}{2}$
of Hyssop	-	-	-	443	55 $\frac{1}{2}$
of Cummin Seed	-	-	-	448	56
of Mint	-	-	-	448	56
of Pennyroyal	-	-	-	450	56 $\frac{1}{2}$
of Dill Seed	-	-	-	457	57 $\frac{1}{2}$
of Fennel Seed	-	-	-	458	57 $\frac{1}{2}$
of Cloves	-	-	-	476	59 $\frac{1}{2}$
of Cinnamon	-	-	-	476	49 $\frac{1}{2}$
of Sassafras	-	-	-	503	62 $\frac{1}{2}$

	Pint weighs			Ounce measure weighs	Drachm measure weighs
	ounces.	drachms.	grains.	grains.	grains.
ALKALINE LIQUORS.					
Lixivium faponarium, <i>Pharm. Lond.</i>	16	0	0	480	60
Spirit of Sal ammoniac	17	1	10	514 $\frac{3}{4}$	64 $\frac{1}{2}$
Strong Soapboilers' ley	17	6	24	534	66 $\frac{1}{2}$
Lixivium tartari	24	0	0	720	90
ACID LIQUORS.					
Wine Vinegar	15	3	44	464	58
Beer Vinegar	15	6	56	476	59 $\frac{1}{2}$
Glauber's Spirit of Salt	17	4	0	525	65 $\frac{1}{2}$
Glauber's Spirit of Nitre	20	2	40	610	76 $\frac{1}{4}$
Strong oil of Vitriol	28	5	20	860	107 $\frac{1}{2}$
ANIMAL FLUIDS.					
Urine	15	5	20	470	58 $\frac{1}{2}$
Cow's Milk	15	6	40	475	59 $\frac{1}{2}$
Asses' Milk	16	0	0	480	60
Blood	16	1	4	484	60 $\frac{1}{2}$
WATERS.					
Distilled Water	15	1	50	456 $\frac{1}{2}$	57
Rain Water	15	2	40	460	57 $\frac{1}{2}$
Spring Water	15	3	12	462	57 $\frac{3}{4}$
Sea Water	15	5	20	470	58 $\frac{1}{2}$
QUICKSILVER	214	5	20	6440	805

CHAPTER IV.

Of the Pharmaceutical Operations.

SECT. I.

Solution.

SOLUTION is an intimate commixture of solid bodies with fluids into one seemingly homogeneous liquor. The dissolving fluid is called a **MENSTRUUM** or **SOLVENT**; and the body dissolved, the **SOLVEND**.

Solution cannot take place unless one of the bodies be in a fluid state, and this fluidity is affected either by water or fire: hence solution is said to be performed in the humid, or in the dry way.

Hence, if a quantity of brimstone be dissolved in a solution of fixed alkali, the brimstone is said to be dissolved in the humid way; but if the brimstone be dissolved by melting it in a pan with the dry alkali, the solution is said to be done in the dry way: but one of the substances is thrown into a state of fluidity by the powers of heat, before the solution takes place; hence the rectitude of the first position. If one of the two bodies to be united is transparent, the solution, if complete, is a transparent compound. But if the solution be opaque and milky, as is the case with soap and water, it is then considered as incomplete.

The principal menstrea made use of in pharmacy, are *water, vinous spirits, oils, acid, and alkaline liquors.*

WATER is the menstruum of all salts, of vegetable gums, and of animal gellies. Of salts it dissolves only a determinate quantity, though of one kind of salt more than another; and being thus SATURATED, leaves any additional quantity of the same salt untouched.

Experiments have been made for determining the quantities of water which different salts require for the dissolution. Mr. Eller has given a large set in the Memoirs of the Royal Academy of Sciences of Berlin for the Year 1750, from which the following table is extracted.

Table of the solubility of fluids.

Eight ounces by weight of distilled water dissolved

	oz.	dr.	gr.
Of Refined Sugar	24	0	0
Green Vitriol	9	4	0

	oz.	dr.	gr.
Of Blue Vitriol	9	0	0
White Vitriol	4	4	0
Epsom Salt	4	0	0
Purified Nitre	4	0	0
Soluble Tartar	4	0	0
Common Salt	3	4	0
Sal gemmæ	3	4	0
Sal catharticus Glauberi	3	4	0
Seignette's Salt	3	0	0
Alum	2	4	0
Sal Ammoniac	2	4	0
Vitriolated Tartar	1	4	0
Salt of Hartshorn	1	4	0
Sugar of Lead	1	2	0
Cream of Tartar	1	0	0
Borax	0	4	20

Though great care appears to have been taken in making these experiments, it is not to be expected, that the proportions of the several salts, soluble in a certain quantity of water, will always be found exactly the same with those just set down. Salts differ in their solubility, according to the degrees of their purity, perfection, and dryness: the vitriols, and the artificial compound salts in general, differ remarkably in this respect, according as they are more or less impregnated with the acid ingredient. Thus vitriolated tartar, perfectly neutralised, is extremely difficult of solution. The matter which remains in making Glauber's spirit of nitre is no other than a vitriolated tartar, and it dissolves so difficultly, that the operator is obliged to break the retort in order to get it out; but on adding more of the vitriolic acid, it dissolves with ease. Hence many have been tempted to use an over-proportion of acid in this preparation, and we frequently find in the shops, under the name of vitriolated tartar, this acid soluble salt. The degree of heat occasions also a notable difference in the quantity of salt taken up; in very cold weather, eight ounces of water will dissolve only about one ounce of nitre; whereas, in warm weather, the same quantity will take up three ounces or more. To these circumstances are probably owing, in great part, the remarkable differences in the proportional solubilities of salts, as determined by different authors. It is observable, that common salt is less affected in its solubility, by a variation of heat, than any other salt; for water in a temperate state will dissolve nearly as much of it as very hot water; and accordingly this is the salt in which the different experiments agree the best. In the experiments of Hoffmann, Neumann, and Petit, the proportion of this salt, on a reduction of the numbers, comes out exactly the same, viz. three ounces of the salt to eight of water. Dr. Brownrigg makes the quantity of salt a little more; Dr. Grew, a drachm and

a scruple more; and Eller, as appears in the above table, four drams more. So, in the trials of six different persons, made probably in different circumstances, the greatest difference is only one-sixth of the whole quantity of salt; whereas in some other salts there are differences of twice or thrice the quantity of the salt. In the experiments, from which the table is drawn, the water was of the temperature of between 40 and 42 degrees of Fahrenheit's thermometer; or above freezing by about one-seventh of the interval between freezing and the human heat.

Some salts omitted by Eller are here subjoined. The first is taken from Dr. Grew, and the other four from Neumann.

Eight ounces of water dissolved

	oz.	dr.	gr.
Of fixt alkaline Salt	above 8	0	0
Sal diureticus	8	0	0
Sugar-Candy, both brown and white	9	0	0
Sugar of Milk	0	2	40
Essential Salt of Sorrel	0	1	20

Though water takes up only a certain quantity of one kind of salt, yet, when saturated with one, it will still dissolve some portion of another; and, when it can bear no more of either of these, it will still take up a third, without letting go any of the former. The principal experiments of this kind that have been made, relative to pharmaceutic subjects, are exhibited in the following table, of which the two first articles are from Grew, and the others from Eller.

Water, 32 parts by weight,

fully saturated with

dissolved afterwards.

	Parts.	
Nitre	10	Sal ammoniac 2
Common Salt	10	Nitre
Nitre	7	Fixt Alkali 2
Common Salt	2	Nitre, near
Volatile alkali	4	Nitre
Sal ammoniac	2½	Common Salt
Soluble Tartar	2	Nitre
Vitriolated Tartar	2	Fixt Alkali
Glauber's Salt	1	Nitre
Epsom Salt	6	Sugar
Borax	2	Fixt Alkali

In regard to the other class of bodies for which water is a menstruum, viz. those of the gummy and gelatinous kind, there is no determinate point of saturation; the water unites readily with any

proportions of them, forming, with different quantities, liquors of different consistences. This fluid takes up likewise, when assisted by trituration, the vegetable gummy resins, as ammoniacum and myrrh; the solutions of which, though IMPERFECT, that is, not transparent, but turbid, and of a milky hue, are nevertheless applicable to valuable purposes in medicine. It mingles with vinous spirits, with acid and alkaline liquors, not with oils, but imbibes some of the more subtile parts of essential oils, so as to become impregnated with their smell and taste.

Rectified SPIRIT OF WINE is the menstruum of the essential oils; resins and camphor of vegetables; of the pure distilled oils, and several of the colouring and medicinal parts of animals; of some mineral bituminous substances, as of ambergris; and of soaps, though it does not act upon the expressed oil and fixt alkaline salt, of which soap is composed; whence, if soap contain any superfluous quantity of either the oil or salt, it may, by means of this menstruum, be excellently purified therefrom. It dissolves, by the assistance of heat, volatile alkaline salts; and, more readily, the neutral ones, composed either of fixed alkali and the acetous acid, as the sal diureticus, or of volatile alkali and the nitrous acid, as also the salt of amber, &c. It mingles with water and with acids; not with alkaline lixivia.

OILS dissolve vegetable resins and balsams, wax, animal fats, mineral bitumens, sulphur, and certain metallic substances, particularly lead. The expressed oils are, for most of these bodies, more powerful menstrua than those obtained by distillation; as the former are more capable of sustaining, without injury, a strong heat, which is, in most cases, necessary to enable them to act. It is said, that one ounce of sulphur will dissolve in three ounces of expressed oil, particularly that of linseed, but requires six ounces of essential oil, as that of turpentine.

All ACIDS dissolve alkaline salts, alkaline earths, and metallic substances. The different acids differ greatly in their action upon these last; one dissolving only some particular metals; and another, others.

The *vegetable* acids dissolve a considerable quantity of zinc, iron, copper, lead, and tin; and extract so much from the metallic part of antimony, as to become powerfully emetic: they dissolve lead more readily, if the metal be previously calcined by fire, than in its metallic state.

The *marine* acid dissolves zinc, iron, and copper; and though it scarce acts on any other metallic substance, in the common way of making solutions, it may nevertheless be artfully combined with them all except gold: the corrosive sublimate, and antimonial caustic of the shops, are combinations of it with mercury and the me-

tallic part of antimony, effected by applying the acid, in the form of fume, to the subjects, at the same time also strongly heated.

The *nitrous acid* is the common menstruum of all metallic substances, except gold and the metallic part of antimony; of which two, the proper solvent is a mixture of the nitrous and marine acids, called *aqua regia*.

The *vitriolic acid*, diluted with water, easily dissolves zinc and iron: in its concentrated state, and assisted by a boiling heat, it may be made to corrode, or imperfectly dissolve, most of the other metals.

The *aërial acid* dissolves zinc, iron, and calcareous earth: and those solutions must be conducted without heat.

ALKALINE lixivia dissolve oils, resinous substances, and sulphur. Their power is greatly promoted by the addition of *quick-lime*: instances of which occur in the preparation of soap, and in the common caustic. Thus acuated, they reduce the flesh, bones, and other solid parts of animals, into a gelatinous matter. This increased acrimony, in the alkaline fixed salts, is owing to the abstraction of their fixed air; that acid having a greater attraction for quick-lime, than alkali.

Solutions made in water, and in spirit of wine, possess the virtues of the body dissolved; while oils generally sheathe its activity; and acids and alkalies vary its quality. Hence watery and spirituous liquors are the proper menstrua of the native virtues of vegetable and animal matters.

Most of the foregoing solutions are easily effected, by pouring the menstruum on the body to be dissolved, and suffering them to stand together for some time, exposed to a suitable warmth. A strong heat is generally requisite to enable oils and alkaline liquors to perform their office: nor will acids act on some metallic bodies without its assistance. The action of watery and spirituous menstrua is likewise expedited by a moderate heat; though the quantity, which they afterwards keep dissolved, is not, as some suppose, by this means increased: all that heat occasions these to take up, more than they would do in a longer time in the cold, -will, when the heat ceases, subside again: this at least is most commonly the case, though there may be some instances of the contrary.

The action of acids on the bodies which they dissolve, is generally accompanied with heat, effervescence, and a copious discharge of fumes. The fumes which arise during the dissolution of some metals in the vitriolic acid, prove inflammable: hence, in the preparation of the artificial vitriols of iron and zinc, the operator ought to be careful, especially where the solution is made in a narrow-mouthed vessel, lest, by the imprudent approach of a candle, the exhaling vapour be set on fire. — This vapour is the inflammable air of Dr. Priestley, and other modern chemists.

There is another species of solution, in which the moisture of the air is the menstruum. First alkaline salts and those of the

neutral kind, composed of alkaline salts, and the vegetable acids, or of soluble earths, and any acid except the vitriolic, and some metallic salts, on being exposed for some time to a moist air, gradually attract its humidity, and at length become liquid. Some substances, not dissoluble by the application of water in its grosser form, as the butter of antimony, are easily liquefied by this slow action of the aerial moisture. This process is termed **DELIQUATION**.

SECTION II.

Extraction.

THE liquors which dissolve certain substances in their pure state, serve likewise to *extract* them from admixtures of other matter. Thus rectified spirit of wine, the menstruum of essential oils and resins, takes up the virtues of the resinous and oily vegetables; as water does those of the mucilaginous and saline; the inactive earthy parts remaining untouched by both. Water extracts likewise from many plants, substances, upon which by themselves it has little effect; even essential oils being, as we have formerly observed, rendered soluble in that fluid, by the admixture of gummy and saline matter, of which all vegetables participate in a greater or less degree. Thus many of the aromatic plants, and most of the bitters and astringents, yield their virtues to this menstruum.

Extraction is performed by **MACERATING** or **STEEPING** the subject in its appropriated menstruum, in the cold; or **DIGESTING** or **CIRCULATING** them, in a moderate warmth; or **INFUSING** the plant in the boiling liquor, and suffering them to stand in a covered vessel till grown cold; or actually **BOILING** them together for some time: but if the vegetable matter is itself succulent and watery, it is sometimes only necessary to express the juice, and evaporate it to the proper consistence.

The term *digestion* is sometimes used for maceration, and, in this case, the process is directed to be performed *without heat*: where this circumstance is not expressed, digestion always implies the use of heat. *Circulation* differs from digestion only in this; that the steam, into which a part of the liquor is resolved by the heat, is, by means of a proper disposition of the vessels, condensed and conveyed back upon the subject. Digestion is usually performed in a *matrass* (or *bolthead*), Florence flask, or the like; either of which may be converted into a *circulatory vessel*, by inverting another into the mouth, and securing the juncture with a piece of wet bladder. A single matrass, if its neck be very long and narrow, will answer the purpose as effectually; the vapour cooling and condensing be-

fore it can rise to the top. In a vessel of this kind, even spirit of wine, one of the most volatile liquors we know, may be boiled without any considerable loss. The use of this instrument is likewise free from any inconvenience, which may, in some cases, attend the other, of the uppermost vessel being burst or thrown off. As the long-necked matrasses here recommended are difficultly filled or emptied, and likewise very dear, a long glass pipe may be occasionally luted to the shorter ones.

Heat greatly expedites extraction; but by these means proves as injurious to some substances, by occasioning the menstruum to take up their grosser and more ungrateful parts, as it is necessary for enabling it to extract the virtues of others. Thus guaiacum or logwood impart little to aqueous liquors, without a boiling heat, whilst even a small degree of warmth proves greatly prejudicial to the fine bitter of *carduus benedictus*. This plant, which, infused in boiling, or digested in sensibly hot water, gives a nauseous taste, so offensive to the stomach as to promote vomiting, yields to the cold element a grateful balsamic bitter.

As heat promotes the dissolving power of liquids, so cold, on the other hand, diminishes it. Hence tinctures, or extractions made by a considerable heat, deposit in cold weather a part of their contents, and thus become proportionably weaker: *a circumstance which deserves particular regard.*

S E C T. III.

Depuration.

THERE are different methods of *depurating* or purifying liquors from their feculencies, according as the liquor itself is more or less tenacious, or the feculent matter of greater or less gravity.

Thin fluids readily deposit their more ponderous impurities, upon standing at rest for some time, in a cool place; and may then be **DECANTED**, or poured off clear, by inclining the vessel.

Glutinous, unctuous, or thick substances, are to be liquefied by a suitable heat; when the grosser feculencies will fall to the bottom; the lighter arising to the surface, to be **DESPUMATED** or skimmed off.

Where the impurities are neither so ponderous as to subside freely to the bottom, nor so light as to arise readily to the surface; they may be separated in a great measure by **COLATURE** through strainers of linen, woollen, or other cloth; and more perfectly by **FILTRATION** through a soft bibulous kind of paper made for this use.

The grey paper, which covers pill-boxes as they come from

abroad, is one of the best for this purpose: it does not easily break when wetted, or tinge the liquor which passes through it, which the reddish sort, called *bleffom* paper, frequently does. The paper is supported by a funnel, or piece of canvas fixed in a frame. When the funnel is used, it is convenient to put some straws or small sticks between the paper and its sides, to prevent the weight of the liquor from pressing the paper so close to it, as not to allow room for this fluid to transude. In some cases a funnel made of wire is put betwixt the paper and the glass funnel. There is also a kind of glass-funnel, with ridges down its sides, made on purpose for this use.

Glutinous and unctuous liquors, which do not easily pass through the pores of a filter or strainer, are CLARIFIED, by beating them up with the whites of eggs, which, concreting or growing hard when heated, and entangling the impure matter, arise with it to the surface: the mixture is to be gently boiled, till the scum begins to break, when the vessel is to be removed from the fire, the crust taken off, and the liquor passed through a flannel bag.

Decantation, colature, and filtration, are applicable to most of the medicated liquors that stand in need of purification. Despumation and clarification very rarely have place; since these, along with the impurities of the liquor, frequently separate its medicinal parts. Thus, if the decoction of poppy heads, for making diacodium, be solicitously scummed or clarified, the medicine will lose almost all that the poppies communicated, and instead of a mild opiate, turn out little other than a plain syrup of sugar.

It may be proper to observe, that the common sorts of filtering paper are apt to communicate a disagreeable flavour: and, hence, in filtering fine bitters, or other liquors, whose gratefulness is of primary consequence, the part, which passes through first, ought to be kept apart for inferior purposes.

S E C T. IV.

Crystallization.

WATER, assisted by heat, dissolves a larger proportion of saline substances than it can retain when grown cold: hence, on the abatement of the heat, a part of the salt separates from the menstruum, and concretes at the sides and bottom of the vessel. The concretions, unless too hastily formed by the sudden cooling of the liquor, or disturbed in their coalescence by agitation, or other like causes, prove transparent, and of regular figures, resembling in appearance the natural sprig-CRYSTALS.

Salts, dissolved in a large quantity of water, may, in like manner, be recovered from it in their crystalline form, by boiling down the

solution, till so much of the fluid has exhaled, as that the remainder will be too little to keep the salt dissolved when grown perfectly cold. It is customary to continue the evaporation, till the salt shews a disposition to concrete even from the hot water, by forming a pellicle on that part which is least hot, viz. on the surface. If large, beautiful, and perfectly-figured crystals are required, this point of time is somewhat too late: for if the salt thus begin to coalesce whilst considerably hot, on being removed into a cold place, its particles will run too hastily and irregularly together; the pellicle at the same time falling down through the liquor, and thus proving a further disturbance to the regularity of the crystallization.

In order to perform this process in perfection, the evaporation must be gentle, and continued no longer than till some drops of the liquor, let fall on a cold glass plate, discover crystalline filaments. When this mark of sufficient exhalation appears, the vessel is to be immediately removed from the fire into a less warm, but not cold place, and covered with a cloth, to prevent the access of cold air, and consequently the formation of a pellicle.

The fixed alkalies, especially the mineral, when fully saturated with fixed air, or ærial acid, assume a crystalline form; but these crystals are not so perfect as when the same alkalies are united with the other acids: the volatile alkalies cannot crystallize, because they escape before the menstruum exhales. Some even of the neutral kind, particularly those, of which certain metallic bodies are the basis, are so strongly retained by the aqueous fluid, as not to exhibit any appearance of crystallization, unless some other substance be added, with which the water has a greater affinity. The table of affinity shews, that such a substance is spirit of wine; by the prudent addition of which, these kinds of salts separate freely from the menstruum, and form large and beautiful crystals, scarce obtainable by any other means.

The operator must be careful not to add too much of the spirit, lest, instead of a gradual and regular crystallization, the basis of the salt be hastily precipitated in a powdery form. One twentieth part of the weight of the liquor will in most cases be a sufficient, and in some too large a quantity.

Different salts require different quantities of water to keep them dissolved: and, hence, if a mixture of two or more be dissolved in this fluid, they will begin to separate and crystallize at different periods of the evaporation. Upon this foundation, salts are freed, not only from such impurities, as water is not capable of dissolving and carrying through the pores of a filter, but likewise from admixtures of one another; that which requires most water to dissolve it, shooting first into crystals.—For further particulars respecting crystallization, see Part III. Sect. VI.

S E C T. V.

Precipitation.

BY this operation, bodies are recovered from their solutions, by means of the addition of some other substance, with which either the menstruum, or the body dissolved, have a greater affinity than they have with each other.

Precipitation, therefore, is of two kinds; one, where the substance superadded unites with the menstruum, and occasions that before dissolved to be thrown down: the other, in which it unites with the dissolved body, and falls along with it to the bottom. Of the first we have an example in the precipitation of sulphur from alkaline lixivium, by the means of acids; of the second, in the precipitation of mercury from aqua-fortis by sea-salt, or its acid.

The subjects of this operation, as well those which are capable of being precipitated as those which precipitate them, will readily appear from inspection of the table of affinity. The manner of performing it is so simple, as not to stand in need of any particular directions; no more being required, than to add the precipitant by degrees, so long as it continues to occasion any precipitation. When the whole of the powder has fallen, it is to be well *EDULCORATED*, that is, washed in several fresh parcels of water, and afterwards dried for use.

Where metals are employed as precipitants, as in the purification of martial vitriol from copper by the addition of fresh iron, they ought to be perfectly clean and free from any rusty or greasy matter; otherwise they will not readily, if at all, dissolve, and consequently the precipitation will not succeed; for the substance to be precipitated separates only by the additional one's dissolving and taking its place. The separated powder, often, instead of falling to the bottom, lodges upon the precipitant, from which it must be occasionally shaken off, for reasons sufficiently obvious.

Though, in this operation, the precipitated powder is generally the part required for use, yet some advantage may frequently be made of the liquor remaining after the precipitation. Thus, when fixt alkaline salt is dissolved in water, and sulphur dissolved in this lixivium, the addition of acids separates and throws down the sulphur, only by virtue of the acid's uniting with, and neutralizing the alkali by which the sulphur was held dissolved: consequently, if the precipitation be made with the vitriolic acid, and the acid gradually dropt in till the alkali be completely satiated, that is, so long as it continues to occasion any precipitation or turbidness, the liquor will yield, by proper evaporation and crystallization, a neutral salt

composed of the vitriolic acid and fixt alkali, that is, vitriolated tartar. In like manner, if the precipitation be made with the nitrous acid, a true nitre may be recovered from the liquor; if with the marine, the salt called *spiritus salis marini coagulatus*; and if with the acid of vinegar, the *kali acetatum*.

S E C T. VI.

Evaporation.

THIS is a third method of recovering solid bodies from their solutions, effected by the means of heat; which *evaporating* the fluid part, that is, forcing it off in steam, the matter which was dissolved therein is left behind in its solid form.

The general rules for evaporating are, to place the matter in a flat, shallow, wide vessel, so that a large surface of the liquor may be presented to the air; for it is only from the surface that evaporation takes place. The degree of heat ought to be proportioned to the volatility of the substance to be evaporated, and to the degree of the fixity of the matter to be lost; thus the less fixed the matter to be left is, and the more strongly it adheres to the volatile parts, the less the degree of heat ought to be; and in such cases, too, a forcible current of air is sometimes scarcely admissible: on the contrary, when the matter to be evaporated is not very volatile, and the matter to be left is very fixed, and does not adhere strongly to the volatile part; the evaporation may be urged by a strong heat, aided by a current of air directed upon the surface of the liquor.

This process is applicable to the solutions of all those substances which are less volatile than the menstruum, or which will not exhale by the heat requisite for the evaporation of the fluid: as the solutions of fixt alkaline salts; of the gummy, gelatinous, and other inodorous parts of vegetables and animals in water; and of many resinous and odorous substances in spirit of wine.

Water extracts the virtues of sundry fragrant aromatic herbs, almost as perfectly as rectified spirit of wine: but the aqueous infusions are far from being equally suited to this process, with those made in spirit; water carrying off the whole odour and flavour of the subject, which that lighter liquor leaves entire behind it. Thus a watery infusion of mint loses in evaporation the smell, taste, and virtues of the herb, while a tincture drawn with pure spirit, yields, on the same treatment, a thick balsamic liquid, or solid gummy resin, extremely rich in the peculiar qualities of the mint.

In evaporating these kinds of liquors, particular care must be had, towards the end of the process, that the heat be very gentle; other-

wise the matter, as it grows thick, will burn to the vessel, and contract a disagreeable smell and taste: this burnt flavour is called an *empyreuma*. The liquor ought to be kept stirring during the evaporation; otherwise a part of the matter concretes on the surface exposed to the air, and forms a pellicle which impedes the further evaporation.

S E C T. VII.

Distillation.

IN the foregoing operation fluids are rarefied by heat into steam or vapour, which is suffered to exhale in the air, but which the business of distillation is to collect and preserve. For this purpose the steam is received in proper vessels, luted to that in which the subject is contained; and being there cooled, condenses into a fluid form again.

There are two kinds of distillation: by the one, the more subtile and volatile parts of liquors are elevated from the grosser; by the other, liquids, incorporated with solid bodies, are forced out from them by vehemence of fire.

To the first, belong the distillation of the pure inflammable spirit from vinous liquors; and of such of the active parts of vegetables as are capable of being extracted by boiling water or spirit, and at the same time arising along with their steam.

As boiling water extracts or dissolves the essential oils of vegetables, while blended with the other principles of the subject, without saturation, but imbibes only a determinate, and that a small, proportion of them in their pure state; as these oils are the only substances contained in common vegetables, which prove totally volatile in that degree of heat; and as it is in them that the virtues of aromatics, and the peculiar odour and flavour of all plants reside, it is evident, that water may be impregnated, by distillation, with the more valuable parts of many vegetables: that this impregnation is limited, the oil arising in this process pure from those parts of the plant which before rendered it soluble in water without limitation; hence greatest part of the oil separates from the distilled aqueous liquor, and, according to its greater or less gravity, either sinks to the bottom or swims on the surface: and that, consequently, infusions and distilled waters are greatly different from one another; that the first may be rendered stronger and stronger by pouring the liquor on fresh parcels of the subject; but that the latter cannot be in like manner improved by *cohabating*, or re-distilling them from fresh ingredients. See Part II. Chap. V. Sect. II.

As the oils of many vegetables do not freely distil with a less

heat than that in which water boils; as rectified spirit of wine is not susceptible of this degree of heat; and as this menstruum totally dissolves these oils in their pure state, it follows, that spirit elevates far less from most vegetables than water; but that nevertheless the distilled spirit, by keeping all that it does elevate perfectly dissolved, may, in some cases, prove as strong of the subject as the distilled water. The more gentle the heat, and the slower the distillation goes on, the volatile parts are the more perfectly separated in their native state.

The apparatus made use of for distilling spirits, waters, and oils, consist of a *still*, or copper vessel, for containing the subject, on which is luted a large *head* with a *swan neck*. The vapour arising into the head, is hence conveyed through a *worm*, or long spiral pipe, placed in a vessel of cold water called a *refrigeratory*; and being there condensed, runs down into a *receiver*. In the second part of this work, we shall give some improvements in this apparatus for particular purposes; with directions for performing the several processes to the greatest advantage.

It may be observed, that as the parts which are preserved in evaporation cannot arise in distillation, the liquor remaining after the distillation, properly depurated and inspissated, will yield the same extracts as those prepared from the tincture or decoction of the subject made on purpose for that use; the one of these operations collecting only the volatile parts, and the other the more fixt; so that where one subject contains medicinal parts of both kinds, they may thus be obtained distinct, without one's being injured by the process which collects the other.

THE subjects of the second kind of distillation are, the gross oils of vegetables and animals; the mineral acid spirits; and the metallic fluid quicksilver; which, as they require a much stronger degree of heat to elevate them than the foregoing liquors can sustain, so they likewise condense without arising so far from the action of the fire. The distillation of these is performed in low glass vessels, called, from their necks being bent to one side, *retorts*: to the further end of the neck a *receiver* is luted, which standing without the furnace, the vapours soon condense in it, without the use of a refrigeratory: nevertheless, to promote this effect, some are accustomed, especially in warm weather, to cool the receiver, by occasionally applying wet cloths to it, or keeping it partly immersed in a vessel of cold water.

The vapours of some substances are so sluggish, or strongly retained by a fixt matter, as scarce to arise even over the low neck of the retort. These are most commodiously distilled in straight-necked earthen vessels, called *longnecks*, laid on their sides, so that the vapour passes off laterally with little or no ascent: a receiver is luted to the end of the neck without the furnace: in this manner, the acid spirit of vitriol is distilled. The matter which remains in

the retort or longneck, after the distillation, is vulgarly called *caput mortuum*.

In these distillations, a quantity of elastic air is frequently generated; which, unless an exit is allowed it, blows off or bursts the receiver. The danger of this may, in good measure, be prevented, by slowly raising the fire; but more effectually, by leaving a small hole in the luting, to be occasionally opened or stopped with a wooden plug; or inserting at the juncture an upright pipe of such a height, that the steam of the distilling liquor may not be able to rise to the top; but it is still better done by fitting to the apparatus other vessels, by which their vapours may be condensed.

S E C T. VIII.

Sublimation.

AS all fluids are volatile by heat, and consequently, capable of being separated, in most cases, from fixed matters, by the foregoing process, so various solid bodies are subjected to a similar treatment. Fluids are said to *distil*, and solids to *sublime*; though sometimes both are obtained in one and the same operation. If the subliming matter concrete into a mass, it is commonly called a *sublimate*; if into a powdery form, *flowers*.

The principal subjects of this operation are, volatile alkaline salts; neutral salts composed of volatile alkalies and acids, as sal ammoniac; the salt of amber, and flowers of benzoin; mercurial preparations; and sulphur. Bodies, of themselves not volatile, are frequently made to sublime by the mixture of volatile ones: thus iron is carried up by sal ammoniac in the preparation of the *ferrum ammoniacale*.

The fumes of solid bodies, in close vessels, rise but a little way, and adhere to that part of the vessel where they concrete. Hence a receiver or condenser is less necessary here than in the preceding operation; a single vessel, as a *matrass*, or tall *vial*, or the like, being frequently sufficient.

S E C T. IX.

Expression.

THE *press* is chiefly made use of for forcing out the juices of succulent herbs and fruits; and the insipid oils of the unctuous seeds and kernels.

The harder fruits, as quinces, require to be previously well beaten or ground; but herbs are to be only moderately bruised. The subject is then included in a hair bag, and pressed betwixt wooden plates, in the common screw-press, as long as any juice runs from it.

THE expression of oils is performed nearly in the same manner as that of juices; only, here, iron plates are substituted for the wooden ones there made use of. The subject is well pounded, and included in a strong canvass bag, betwixt which and the plates of the press a hair-cloth is interposed.

The insipid oils of all the unctuous seeds are obtained, uninjured, by this operation, if performed without the use of heat; which though it greatly promotes the extraction of the oil, at the same time impresses an ungrateful flavour, and increases its disposition to grow rancid.

The oils expressed from aromatic substances generally carry with them a portion of their essential oil: hence the smell and flavour of the expressed oils of nutmegs and mace. They are very rarely found impregnated with any of the other qualities of the subject: oil of mustard-seed, for instance, is as soft and void of acrimony as that of almonds, the pungency of the mustard remaining entire in the cake left after the expression.

S E C T. X.

Exsiccation.

THERE are two general methods of exsiccating or drying moist bodies: in the one, their humid parts are exhaled by heat; in the other, they are imbibed or absorbed by substances, whose soft and spongy texture adapts them to that use. Bodies intimately combined with, or dissolved in, a fluid, as recent vegetables and their juices, require the first: such as are only superficially mixed, as when earthy or indissoluble powders are ground with water, are commodiously separated from it by the second.

Vegetables and their parts are usually exsiccated by the natural warmth of the air: the assistance of a gentle artificial heat may, nevertheless, in general, be not only safely, but advantageously had recourse to. By a moderate fire, even the more tender flowers may be dried, in a little time, without any considerable loss, either of their odour or lively colour; which would both be greatly injured or destroyed by a more slow exsiccation in the air. Some plants indeed, particularly those of the acrid kind, as horse-radish, scurvy-grass, and arum, lose their virtues by this process, however

carefully performed: but far the greater number retain them unimpaired, and often improved.

The thicker vegetable juices may be exsiccated by the heat of the sun; or, where this is not sufficient, by that of a water bath, or an oven moderately warm. The thinner juices may be gently boiled till they begin to thicken, and then treated as the foregoing: this process, termed *INSPISSATION* or *EVAPORATION*, has been spoken of already. The juices of some plants, as arum root, briony root, orris root, wild cucumbers, &c. separate, upon standing for some time, into a thick part, which falls to the bottom; and a thin aqueous one, which swims above it: this latter is to be poured off, and the first exsiccated by a gentle warmth: preparations of this kind have been usually called *FÆCULÆ*; that of the wild cucumber, to be spoken of in its place, is the only one which practice now retains.

Indissoluble bodies, mixed with water into a thick consistence, may be easily freed from the greatest part of it, by dropping them on a *chalk-stone*, or some powdered chalk pressed into a smooth mass, which readily imbibes their humidity. Where the quantity of fluid is large, as in the edulcoration of precipitates, it may be separated by decantation or filtration. It has been before observed, that one of the principal circumstances favouring fermentation was a certain degree of moisture; exsiccation is therefore employed to dissipate humidity, and render vegetables thereby less liable to those changes produced by a kind of insensible fermentation.

S E C T. XI.

Comminution.

COMMINUTION, is the bare reduction of solid coherent bodies into small particles or powder. The methods of effecting this are various, according to the texture of the subject.

Dry friable bodies, or such as are brittle and not very hard, and mixtures of these with somewhat moist ones, are easily *PULVERIZED* in a *mortar*, or a *mill*.

For very light dry substances, resins, and the roots of a tenacious texture, the mortar may in some cases be previously rubbed with a little sweet oil, or a few drops of oil to be occasionally added: this prevents the finer powder of the first from flying off, and the others from cohering under the pestle. Camphor is most commodiously powdered, by rubbing it with a little rectified spirit of wine.

Tough substances, as woods, the peels of oranges and lemons, &c. are most conveniently *rasped*; and soft oily bodies, as nutmegs, passed through a *grater*.

The comminution of the harder minerals, as calamine, crystal, flint, &c. is greatly facilitated by **EXTINCTION**; that is, by heating them red-hot, and quenching them in water: by repeating this process a few times, most of the hard stones become easily pulverable. This process, however, is not to be applied to any of the alkaline or calcareous stones; lest, instead of an insipid powder, we produce an acrimonious calx or lime.

Some metals, as tin, though strongly cohering in their natural state, prove extremely brittle when heated, insomuch as to be easily divided into small particles by dextrous agitation. Hence the official method of pulverising tin, by melting it, and, at the instant of its beginning to return into a state of solidity, briskly shaking it in a wooden box. The comminution of metals, in this manner, is termed by the metallurgists **GRANULATION**.

On a similar principle, certain salts, as nitre, may be reduced into powder in large quantity, by dissolving them in boiling water, setting the solution over a moderate fire, and keeping the salt constantly stirring during its exsiccation, so as to prevent its particles, disjoined by the fluid, from re-uniting together into larger masses.

Powders are reduced to a great degree of fineness by **TRITURATING**, or rubbing them, for a length of time, in a mortar. Such as are not dissoluble in water, or injured by the admixture of that fluid, are moistened with it into the consistence of a paste, and **LEVIGATED**, or ground, on a flat smooth *marble* or *iron plate*; or where a large quantity is to be prepared at a time, in *mills* made for that use.

Comminution, though one of the most simple operations of pharmacy, has, in many cases, very considerable effect. The resinous purgatives, when finely triturated, are more easily soluble in the animal fluids, and consequently prove more cathartic, and less irritating, than in their grosser state. Crude antimony, which, when reduced to a tolerable fine powder, discovers little medicinal virtue, if levigated to a great degree of subtilty, proves a powerful alterative in many chronical disorders.

By comminution, the heaviest bodies may be made to float in the lightest fluid *, for a longer or shorter time, according to their

* Some attribute this effect to a diminution of the specific gravity of the body; and, at the same time, suppose the peculiar virtues of certain medicines, particularly mercury, to be in great measure owing to their gravity. If these hypotheses were just, it should follow, that the mercurial preparations, by being finely comminuted, would lose proportionably their efficacy; and so indeed *mercurius dulcis*, for instance, has been supposed to do. But experience shews, that this is far from being the case; and that comminution by no means lessens, but rather increases its power: when reduced to a great degree of subtilty, it passes readily into the habit, and operates, according to its quantity, as an alterative or a sialagogue; while, in a grosser form, it is apt to irritate the stomach and bowels, and run off by the intestines, without being conveyed into the blood.

greater or less degree of tenuity. Hence we are furnished with an excellent criterion of the fineness of certain powders, and a method of separating the more subtile parts from the grosser, distinguished by the name of *ELUTRIATION*, or *washing over*.

S E C T. XII.

Fusion.

FUSION is the reduction of solid bodies into a state of fluidity by fire. Almost all natural substances, the pure earths, and the solid parts of animals and vegetables excepted, melt in proper degrees of fire; some in a very gentle heat, while others require its utmost violence.

Turpentine, and other soft resinous substances, *LIQUEFY* in a gentle warmth; wax, pitch, sulphur, and the mineral bitumens, require a heat too great for the hand to support; fixt alkaline salts, common salt, nitre, require a red, or almost white heat to *MELT* them; and glass, a full white heat.

Among metallic substances, tin, bismuth, and lead, flow long before ignition: antimony likewise melts before it is visibly red-hot, but not before the vessel is considerably so: the regulus of antimony demands a much stronger fire. Zinc begins to melt in a red heat; gold and silver require a low white heat; copper a bright white heat; and iron an extreme white heat.

One body, rendered fluid by heat, becomes sometimes a menstruum for another, not fusible of itself in the same degree of fire. Thus red-hot silver melts, upon being thrown into melted lead less hot than itself: and thus if steel, heated to whiteness, be taken out of the furnace, and applied to a roll of sulphur, the sulphur instantly liquefying, occasions the steel to melt with it; hence the chalybs cum sulphure of the shops. This concrete, nevertheless, remarkably impedes the fusion of some other metals, as lead, which, when united with a certain quantity of sulphur, is scarce to be perfectly melted by a very strong fire: hence the method, described in its place, of purifying zinc, a metal upon which sulphur has no effect from the lead so frequently mixed with it.

Sulphur is the only unmetallic substance which mingles in fusion with metals. Earthy, saline, and other matters, even the calces and glasses prepared from metals themselves, float distinct upon the surface, and form what is called *SCORIA* or *drofs*. Where the quantity of this is large in proportion to the metal, it is most commodiously separated by pouring the whole into a conical mould: the pure metal or *REGULUS*, though small in quantity, occupies a

considerable height in the lower narrow part of the *cone*, and when congealed, may be easily freed from the scoriæ by a hammer. The mould should be previously greased, or rather smoked, to make the métal come freely out; and thoroughly dried and heated, to prevent the explosion which sometimes happens from the sudden contact of melted metals with moist bodies.

S E C T. XIII.

Calcination.

By calcination is understood, the reduction of solid bodies, by the means of fire, from a coherent to a powdery state, accompanied with a change of their quality; in which last respect, this process differs from comminution.

To this head belong, the burning of vegetable and animal matters, otherwise called **USTION**, **INCINERATION**, or **CONCREMATION**; and the change of metals into a powder, which in the fire either does not melt, or **VITRIFIES**, that is, runs into glass.

The metals which melt before ignition, are calcined by keeping them in fusion for some time. The free admission of air is essentially necessary to the success of this operation; and hence, when the surface of the metal appears covered with calx, this must be taken off, or raked to one side; otherwise the remainder, excluded from the air, will not undergo the change intended. If any coal, or other inflammable matter that does not contain a mineral acid, be suffered to fall into the vessel, the effect expected from this operation will not be produced, and part of what is already calcined, will be **REVIVED** or **REDUCED**; that is, it will return into its metallic form again.

Those metals which require a strong fire to melt them, calcine with a much less heat than is sufficient to make them flow. Hence the burning or **SCORIFICATION** of such iron or copper vessels as are long exposed to a considerable fire without defence from the air. Gold and silver are not calcinable by any degree of fire.

In calcination, the metals visibly emit fumes; nevertheless, the weight of the calx proves greater than that of the metal employed. The antimonial regulus gains about one eleventh part of its weight; zinc, sometimes one tenth; tin, above one sixth; and lead, in its conversion into minium, often one fourth.

The calcination of metallic bodies, gold, silver, and mercury excepted, is greatly promoted by nitre. This salt, exposed to the fire in conjunction with any inflammable substances, extricates their

inflammable matter, and bursts with it into flame, accompanied with a hissing noise: this process is usually termed **DEFLAGRATION** or **DETONATION**.

All the metallic calces and scorix are revived into this metallic state, by fusion with any vegetable or animal inflammable matter. They are all more difficult of fusion than the respective metals themselves: and scarcely any of them, those of lead and bismuth excepted, can be made to melt at all, without some addition, in the strongest fire that can be produced in the common furnaces. The additions, called fluxes, employed for promoting the fusion, consist chiefly of fixt alkaline salts: a mixture of alkaline salt with inflammable matter, as powdered charcoal, is called a *reducing flux*, as contributing at the same time to bring the calx into fusion, and to revive it into metal. Such a mixture is commonly prepared from one part of nitre, and two parts of tartar; by grinding them well together, setting the powders on fire with a bit of coal, or a red-hot iron, then covering the vessel, and suffering them to deflagrate or burn, till they are changed into a black alkaline coaly mass. This is the common reducing flux of the chemists, and called from its colour the *black flux*. Metallic calces, or scorix, mingled with twice their weight of this compound, and exposed to a proper fire, in a close covered crucible, melt, and resume their metallic form; but, though they received an increase of weight in the calcination, the revived metal is always found to weigh considerably less than the quantity from which the calx was made.

WE have now given a concise view of the operation necessary for pharmaceutical purposes: but these will be further treated of in the course of the succeeding parts of this work, where particular substances are directed to undergo such processes as are necessary for acquiring any desired product. As for the instruments which have been described, by which the operations are to be performed, they appear sufficient to answer the proposed ends; but further knowledge may be acquired by consulting the works of modern chemists, viz. the works of **LAVOISIER**, **FOURCROY**, **CHAPTAL**, and **NICHOLSON'S Chemical Dictionary**.

CALCULATION

Chap. IV.

The first part of this chapter is devoted to the consideration of the various methods of calculation which have been employed by the ancients and moderns. It is shown that the methods of the ancients were very different from those of the moderns, and that the modern methods were not discovered until a late period of the world's history. The second part of the chapter is devoted to the consideration of the various methods of calculation which have been employed by the ancients and moderns. It is shown that the methods of the ancients were very different from those of the moderns, and that the modern methods were not discovered until a late period of the world's history.

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PART II.

THE

MATERIA MEDICA.

THIS term includes every substance used in medicine, and by some is extended even to every article used as food and drink.

Writers on the *Materia Medica* have endeavoured to arrange the various articles of which it is composed into different classes; but a slight investigation would soon convince us of the inaccuracy of the plans which have been presented to us, particularly some of the best—**CARTHEUSER — NEWMAN — LEWIS — GLEDITSCH — LINNÆUS — ALSTON — and VOGEL.** But **Dr. CULLEN** has supplied us with one, the most judiciously arranged. — On which subject he says — “ That as the study of the *Materia Medica* is truly the study of medicinal virtues, so the plan that arranges the several substances, according to their agreeing in some general virtues, will be the best adapted to acquiring the knowledge of these, and will most readily inform the practitioner what different means he can employ for his general purpose. — It will also inform him, how far the several similar substances may differ in their degree of power, and how far, from the particular qualities assigned to each, he may be directed, or limited in his choice. — As it seems proper that every practitioner ought, as far as possible, to practise on general indications, so it is evident that his study of the *Materia Medica* is especially to know the several means that can answer there. Such a plan must be most proper for giving instruction; and if, while medicines are arranged, according as they answer general indications, the particulars be likewise thrown together, as far as possible, according to their sensible qualities and botanical affinities, this plan will have the advantage of any other that has been proposed, for presenting together the subject that ought to be considered at one and the same time, and give the best means of recollecting every thing that relates to them.”

He then arranges the different substances in the following order:—

A. SUCH AS SUPPLY NOURISHMENT—*Solid food—Liquids and condiments.*

B. MEDICINES WHICH ACT UPON THE SIMPLE SOLIDS—*Astringents—Tonics—Emollients and Erodents*;

C. ——— UPON THE LIVING SOLIDS — *Stimulants — Sedatives—Narcotics—Refrigerants—Antispasmodics*;

D. THOSE WHICH ACT UPON THE FLUIDS.—1st. such as alter their fluidity—*Attenuants—Inspissants and their mixture*;—2d. Correctors of acrimony in general.—*Demulcents*—3d. in general—*Anti-acids—Anti-alkalines—Anti-putrescents*—and, lastly,

E. EVACUANTS — *Errhines — Sialagogues — Expectorants — Emetics — Cathartics — Diuretics — Diaphoretics and Menagogues.*

By other authors they are differently divided — BOERWAAYE de Viribus, Medicamentorum — GREGORY *Conspectus Medicinæ Theoreticæ* — WALLIS on Health and Disease.

But it has been imagined, that “the whole materia medica is reducible under the three distinctions of *alteratives, evacuants, and restoratives*; “the first comprehending all that has any power to alter the constitution, “without sensibly increasing or diminishing any of the natural evacuations; the second, whatever visibly promotes those discharges; and “the third, all that contributes to lessen them, and make the increase “greater than the waste.” These divisions being too general, they are broke into subdivisions; and these again are further divided into different classes, under more restrained denominations, as cardiac, carminative, hysteric, stomachic, &c.

Specious as this plan may appear to be, I am afraid that the execution of it, to any useful purpose, would require a far more extensive knowledge of the nature and operation of medicines than has yet been attained to. A just and useful method of simples is scarcely to be expected, while those properties, on which the method is founded, are imperfectly known, and in many articles only conjectural.

In all the arrangements that have been hitherto contrived upon this plan, there appears a striking incongruity among the several articles of which even the ultimate subdivisions are composed; substances extremely dissimilar being classed together, as cantharides and tea, tobacco and bran, hemlock and cowslips, scurvy-grass and raisins, arum root and liquorice, wormwood and parsneps, cinnamon and nettles, raspberries and chalk, artichokes and alum, cloves and coffee, mustard-seed and black cherries, &c. Nor are these incongruities to be laid always to the charge of the authors; the nature of the system itself renders them often unavoidable; for the particular effect, which entitles a medicine to a particular class, may be produced by substances very dissimilar, and even opposite in their general powers: thus the alvine excretions are restrained by starch, wax, tormentil root, opium: among the capital diuretics are cantharides, nitre, fixt alkaline salts, squills. It should seem, that the method of arrangement cannot be a just one, which requires substances so discordant to be ranked together; and which farther requires each of these substances to be ranked over again, in other classes, along with other substances to which they are equally discordant.

There is also a material imperfection in this scheme, even in the primary divisions. Steel and its preparations act, in different circumstances, both as evacuants and restoratives. Mercury and antimony afford, in their different preparations, both evacuants and alteratives, and there are many other drugs which are sometimes used as alteratives, and sometimes as evacuants: indeed, all evacuants, in diminished doses, seem to act merely as alteratives. It should seem therefore that "the division of the whole materia medica into alteratives, evacuants, and restoratives," is a division not founded in nature, even if there were no objection to the vague meaning of the appellations themselves.

Cartheuser has divided the materia medica on a plan which appears more rational. Instead of the operations of medicines in the human body, which are precarious, complicated, and greatly diversified according to the dose, the preparation, and the circumstances of the patient, he takes for the basis of his arrangement their more simple, obvious, and constant properties, as bitterness, sweetness, astringency, acidity, &c. Having considered the nature of bitterness, for instance, in general, he examines what effects medicines possessed of this property are capable of producing in the body, and in what circumstances they may be expected to be serviceable, and then proceeds to an account of the particular bitters.

This method is of real use, but its use is limited to a small part of the materia medica. There are many of the medicinal simples, in which we can distinguish no prevailing qualities of this kind; there are many, in which different qualities are blended together; and many, which, though similar in these kinds of qualities, are very dissimilar in their operations in the human body. Thus, though gentian and aloes agree in having a bitter taste, and sugar and manna in being sweet, their medicinal virtues are respectively very different. Accordingly the author is obliged in some cases to depart from his general plan, and found the division on the medicinal effects: he makes one class of purgatives and emetics, and another of vaporose inebriants and narcotics: this last class consists of tobacco, elder-flowers, saffron, opium, and poppy-seeds; substances certainly very discordant in all their qualities that relate to medical intentions.

In this work, instead of attempting a medicinal distribution of the simples, which I apprehend not to be practicable, to any good purpose, and which, as hitherto executed, seems more likely to mislead the reader than to promote true knowledge, I shall take them in the order of the alphabet; and even in this order we shall seldom perhaps find substances more dissimilar come together, than those which have been joined in one class by some of the systematic writers. It may be proper, however, to premise some general observations on certain classes of medicines, in Cartheuser's manner, and thus to preserve the less exceptionable parts of his plan, with some amendments.

ACIDS.

Class I. *Vegetable* { *native*; as sorrel, wood-sorrel, juice of lemons, oranges, barberries, and other fruits.
produced by fermentation; as vinegar and tartar.

Class II. *Mineral*: the acids of vitriol, nitre, and common salt.

THE medical effects of acids, duly diluted, and given in proper doses, are to cool, quench thirst, correct a tendency to putrefaction, and allay inordinate motions of the blood. By these qualities, in hot bilious temperaments and inflammatory disorders, they frequently restrain immoderate hæmorrhages, and promote the natural secretions; in some kinds of fevers, they excite a copious diaphoresis, where the warm medicines, called alexipharmic, tend rather to prevent this salutary discharge.

Vegetable acids, particularly the native juices of certain plants and fruits, have some degree of saponaceous quality; by means of which they attenuate or dissolve viscid phlegm, and deterge the vessels; and thus prove serviceable in sundry chronical disorders. Inveterate scurvies have sometimes yielded to their continued use, especially when given in conjunction with medicines of the acrid or pungent kind. Experience has shewn, that the acrid antiscorbutics have much better effects when thus managed, than when exhibited by

themselves; hence in the *Jucci scorbutici* of our dispensatory, Seville orange juice is usefully joined to that of the *cochlearia* and *nasturtium*.

The mineral acids instantly coagulate blood: the vegetable dilute it, even when inspissated or thickened by heat; in which state, watery liquors will not mingle with it. Hence, in some fevers, where water runs off by the kidneys almost as pale and insipid as it was drank, vegetable acids render the urine of the due colour and quality. The mineral acids (the spirit of nitre in particular), combined with vinous spirits, have a like effect.

Acids are prejudicial in cold, pale, phlegmatic habits, where the vessels are lax, the circulation languid, bile deficient, and the power of digestion weak. In these cases, an acid is often generated in the stomach, from milk and moist vegetable food, which, while it continues in the first passages, occasions uneasiness about the stomach, flatulencies, sometimes griping pains of the bowels, and vomitings.

INSIPID EARTHS *capable of* ABSORBING ACIDS.

Oyster Shells,
Crabs' Claws, and Eyes, so called,
Coral, red and white,
Pearls,
Bezoar,

Chalk,
Some Marles,
Limestones,
Marbles,
Spars.

THE virtues of these substances are, to absorb or destroy acidities in the first passages, and consequently remove such disorders as proceed from that cause. The cordial, alexipharmic, antifebrile, and other like virtues, attributed to these medicines, appear to have little foundation; or, at best, are only secondary ones. When united with the acid, they form a neutral saline compound, possessing some degree of an aperient and detergent quality, though too inconsiderable to be in general regarded.

The absorbent earths were all strangers to medicine in the earlier times; and their use does not seem to have been established before the last century; when some practitioners, from an opinion that most kinds of diseases proceeded from a preternatural acid, introduced a great variety of antiacid bodies, both of the earthy and saline kind; and very liberally exhibited them on almost every occasion.

It is certain that in children, and adults of a weak constitution, and whose food is chiefly of the vegetable acescent kind, sundry disorders are occasioned by acidities; these readily discover themselves by sour eructations, the pale colour of the face, and in children by the sour smell and green colour of the alvine fæces, which are sometimes so manifestly acid as to raise a strong effervescence with alkaline salts. In these cases, and these only, the use of absorbent earths is indicated.

If there be really no acid juices in the ventricle, these earths are apt to concrete with the mucous matter usually lodged there, into hard indissoluble masses; which have sometimes been thrown up by vomit, or found in the stomach upon dissection. Hence indigestion, loss of appetite, nausea, vomiting, obstructions of the bowels, and other disorders. Sometimes the stomach and intestines have been found lined with a crust, as it were, of these earthy bodies, which must not only have prevented the separation of the gastric liquor, but likewise closed the orifices of the lacteal vessels, so as to obstruct the passage of the chyle into the mass of blood.

Some suppose the earthy powders capable (without the concurrence of any acid) of passing the lacteals along with the chyle; and alledge, in support of this opinion, that when triturated with water, they are in part taken up, and carried with it through a filter of paper; the filtrated liquor leaving, upon evaporation, a portion of whitish earthy matter. This experiment (allowing the consequence to be justly drawn from it) is itself erroneous: the residuum proceeds from the earth naturally contained in the water, not from that employed in the experiment; for if pure distilled water be made use of, it will leave no residuum, though long triturated, or digested with the earth.

All these bodies, particularly those of the animal kind, contain,

besides their purely alkaline earth, a portion of glutinous matter. An instance of this we have in crabs' eyes. If these be macerated in the weaker acids, or the stronger sufficiently diluted with water, the earthy part will be dissolved, and the animal glue remain in form of a soft transparent mucilage. The glutinous substance increases their tendency to concreate in the stomach; and, hence, those which contain least thereof should be preferred to the others. The mineral earths contain the least of this kind of matter, and some of them are very easy of solution; chalk, for instance, which may therefore be given with greater safety than the animal absorbents. These substances, divested of their conglutinating matter by means of fire, are reduced into acrimonious calces or limes, and thus become medicines of a different class.

The teeth, bones, hoofs, and horns of animals, consist of the same principles with the animal absorbents above-mentioned, but combined in different proportions: the quantity of gelatinous matter is so large, as to defend the earthy part from the action of weak acids; while the earth, in its turn, protects the gluten from being easily dissolved by watery liquors. Hence these bodies in their crude state, though recommended as possessing singular virtues, are not found to have any virtue at all.

Experiments have been made for determining the degree of solubility, or comparative strength, of these earths; the principal of which are arranged in the two following tables, one taken from Langius, and the other from Homberg.

Table of the quantity of acid destroyed by different absorbents.

Ten grains of	{	Some kinds of Limestones	}	destroyed the acidity of	{	160	}	drops of Spirit of Salt.
		Oyster Shells				120		
		Chalk				100		
		Shells of Garden Snails				100		
		Calcined Cray Fish				100		
		Pearl				80		
		Tooth of the Sea Horse				80		
		Volatile Salts				80		
		Fixt Salts				60		
		Coral, red and white				60		
		Crabs' Eyes				50		
		Egg Shells				50		
		Mother of Pearl				50		
		Crabs' Claws				40		
		Jaw-bone of the Pike-fish				30		

Table of the quantity of absorbent earths soluble in acids.

		grains.
576 grains of Spirit of Salt dissolved, of	{ Crabs' Eyes -	216
	{ Mother of Pearl -	144
	{ Pearls -	128
	{ Oyfter Shells -	156
	{ Hartshorn -	165
	{ Coral -	180
	{ Oriental Bezoar -	118
	{ Occidental Bezoar -	123
576 grains of Spirit of Nitre dissolved, of	{ Quick Lime -	199
	{ Slacked Lime -	193
	{ Crabs' Eyes -	297
	{ Mother of Pearl -	202
	{ Pearls -	219
	{ Oyfter Shells -	236
	{ Hartshorn -	234
	{ Coral -	233
	{ Oriental Bezoar -	108
	{ Occidental Bezoar -	144
	{ Quick Lime -	180
	{ Slacked Lime -	216

These experiments do not sufficiently ascertain the point intended by them. In the first set, the quantity of acid is too vague and indetermined: in the second, we are not told whether the acid was perfectly saturated: and, in both, the acids made use of were so very different from any that can be supposed ever to exist in the human body, that little can be concluded from them, with regard to the medical effects

of these absorbents. Trial should have been made with the mild vegetable acids, as the juices of certain fruits, four fermented liquors; or rather with four milk. Nevertheless, these tables, though not so perfect as could be wished, have their use in the hands of such as can make proper allowances. (See the Experimental History of the materia medica, under ACID SPIRITS.

EARTHS NOT DISSOLUBLE in acids, or other liquors.

The earths of this kind may be ranged in two classes;

CLASS I.

Hard crystalline earths: as the ruby, garnet, emeralds, sapphire, hyacinth, and other precious stones; crystal, flint, &c.

THESE kinds of substances were introduced into medicine, and many fabulous virtues attributed to them, by the superstition

of the earlier ages. Some of them are still preserved in foreign Pharmacopœias, but they are, at length, very justly expunged from ours.

CLASS II.

SOFTER EARTHS: THE TALKY, GYPSEOUS, AND ARGILLACEOUS.

THE talcs and gypsa have rarely been used as medicines. Some of the former, from their unctuous softness and silver hue, stand recommended externally as cosmetics; and some of the latter, on little better foundation, internally, as altringents. But they have long

been deservedly rejected, by the judicious practitioners; and therefore it will be of no use to trouble our readers with investigating the component parts of these substances, as they are not calculated to answer any pharmaceutical purposes.

GLUTINOUS:

Vegetable, and Animal Substances.

CLASS I.

VEGETABLE.

PURE GUMS.

TRAGACANTH,
SENICA,

THE GUMS OF CHERRY, PLUM,
AND OTHER EUROPEAN TREES.

VEGETABLES ABOUNDING
WITH MUCILAGE:

ORCHIS ROOTS,
ALTHÆA ROOT,
QUINCE SEEDS, &c.

GUMS and mucilages are glutinous vegetable productions, of no particular taste or smell, soluble in water, but not in vinous spirits, or in oils. They differ from one another, only in degree of tenacity: the more tenacious are called gums; those which are less so, mucilages. The former naturally exude from certain trees and shrubs; the latter are extracted by art. Almost all vegetable substances contain some

portion of these, which, after the resinous part has been extracted by spirit, may be separated from the remaining matter by means of water.

The general virtues of these kinds of substances are to thicken the fluids, and defend the solids from them, when grown sharp or corrosive. Hence their use in a thin acrimonious state of the juices, and where the natural mucus of the intestines is abraded.

CLASS II.

ANIMAL.

MOST animal substances, the fat excepted, contain a viscous matter, in many respects similar to the foregoing, and capable of being extracted by strong coction in water.

Animal glues and jellies have the general qualities of the vegetable gums and mucilages; with this difference, that the former are more nutrimental, and apt to run

into a putrid state. Considered as the subjects of chemistry, the difference betwixt them is very great: those of the animal kind are changed by fire into a volatile alkaline salt and a fetid oil; the vegetable into an acid liquor, and a very small portion of oily matter, considerably less fetid than the former. But the most nutritious part of animal substances is the finer fluids, which in chemical operations are dissipated.

SOFT UNCTUOUS SUBSTANCES.

CLASS I.

Insipid Vegetable OILS, and Substances abounding with them, as ALMONDS, and the Kernels of most Fruits; Linseed, and the Medullary Part of sundry other Seeds.

CLASS II.

ANIMAL FATS: AS SPERMACETI.

UNCTUOUS vegetables unite with water, by trituration, into a milky liquor: and give out their oil upon expression. — These kinds of oils, and animal fats, dissolve not in any menstruum except alkaline ones; which change their quality, and reduce them into a soap, dissoluble in water, but more perfectly in vinous spirits: from this compound, the oil may, by a skilful addition of acids, be recovered in a purer state than before, and rendered soluble, like essential oils, in spirit of wine.

The medical virtues of these substances are, to obtund acrimonious humours, and to soften and relax

the solids: hence their use internally, in tickling coughs, heat of urine, pains and inflammations; and, externally, in tension and rigidity of particular parts. The milky solutions, commonly called emulsions, though much less emollient than the oils themselves or animal fats, have this advantage, that they may be given in acute or inflammatory distempers, without danger of the ill consequences which the others might sometimes produce. Fats and oils, kept in a degree of heat no greater than that of the human body, soon become rancid and acrimonious; while emulsions tend rather to grow sour.

ASTRINGENTS.

GALLS,
TORMENTIL ROOT,
BISTORT ROOT,

BALAUSTINES,
TERRA JAPONICA,
ACACIA, &c.

ASTRINGENT substances are distinguished by a rough austere taste; and by changing solutions of iron, especially those made in the vitriolic acid, of a dark purple or black colour.

Astringents yield their virtues by infusion, both to water and vinous spirits, generally in greatest perfection to the former. Oils extract nothing from them: nor do they give over any of their virtue

in distillation: nevertheless, their astringency is considerably abated by evaporating decoctions of them to the consistence of an extract; and totally destroyed by long keeping.

The medical effects of these kinds of substances are, to constringe the fibres, and incrassate, or lightly thicken the juices. Their more experienced use is in disorders proceeding from a debility, or flaccid state, of the solids; in hæmorrhages, from a thinness of the blood, laxity or rupture of the vessels; in preternatural discharges of other kinds, after the offending matter has been duly corrected, or evacuated; and in external relaxations.

In some cases, they produce the effects of aperients; the vessels,

constringed and strengthened by them, being enabled to protrude the circulating juices with greater force.

A good deal of caution is requisite in the use of these medicines, especially those of the more powerful kind. In plethoric habits, inveterate obstructions, critical evacuations, and in all kinds of fluxes in general, before the morbid matter has been expelled, or where there is any stricture or spasmodic contraction of the vessels, astringents prove eminently hurtful. Where critical dysenteries or diarrhœas are restrained by styptics, the acrimonious matter, now confined in the intestines, corrodes or inflames them; and sometimes occasions a gangrene of the parts,

SWEETS.

SUGAR,
HONEY,

RAISINS,
LIQUORICE, &c.

THE vegetable sweets are a very numerous tribe; almost every plant that has been examined, discovering, in some of its parts, a saccharine juice. The bottoms of flowers, and most kinds of seeds and grain, when they begin to vegetate, are remarkably sweet.

Vegetable sweets are extracted both by water and vinous spirits; most readily by the former, but in greatest perfection by the latter. Nothing of their taste arises in distillation with either of these liquors: nevertheless, by long boiling with water they become somewhat less agreeable; but are not much injured by being treated in the same manner with rectified spirit.

The purer sweets, as sugar, promote the union of distilled oils with watery liquors, and prevent the separation of the butyraceous part from milk; from this quality, they

are supposed to unite the unctuous part of the food with the animal juices. Hence some have concluded, that they increase fat: others, that they have a contrary effect, by preventing the separation of the unctuous matter, which forms the fat, from the blood: and others, that they render the juices thicker and more sluggish, retard the circulation and cuticular excretion, and thus bring on a variety of disorders. But sweets have not been found to produce any of these effects, in any remarkable degree: common experience shows, that their moderate, and even liberal use, is at least innocent; that they reconcile, not only to the palate, but the stomach also, substances of themselves disgustful to both; and thus render salutary what would otherwise be injurious to the body.

The unctuous and mucilaginous

sweets, as the impure sugars, liquorice, &c. have a considerable degree of emollient and lubricating virtue. — Those, accompanied with a manifest acid, as in the

juices of most sweet fruits, are remarkably relaxing; and, if taken immoderately, occasion diarrhœæ and dysenteries, which sometimes have proved fatal.

ACRIDS.

ACRIDS are substances of a penetrating pungency. Applied to the skin, they inflame or ulcerate it; chewed, they occasion a

copious discharge of saliva: and snuffed up the nose, provoke sneezing.

These substances, considered as the subjects of pharmacy, may be divided into three classes,

yielding their acrimony

1. In distillation with water: as horse-radish: mustard, scurvy-grass, &c.
2. By infusion only: as the greater celandine, pyrethrum, &c.
3. Neither to infusion nor distillation: as arum and dracunculus.

The general effects of acrid medicines are, to stimulate the vessels, and dissolve tenacious juices. In cold leucophlegmatic habits, stagnations of the fluids, and, where the contractive power of the solids is weak, they prove powerful expectorants, deobstruents, diuretics, and emmenagogues; and if the patient be kept warm, sudorifics. In hot bilious constitutions, plethoric habits, inflammatory distempers, where there is already a degree of irritation, where the juices are too thin and acrimonious, or the viscera unsound; these stimulating medicines prove highly prejudicial, and never fail to aggravate the disease.

Certain acrid substances have been recommended in dry convulsive asthma; of the efficacy of the

squill in particular, for the cure of this disorder, several instances are related in the *Commercium Literarium* of Norimberg for the years 1737 and 1739. Cartheuser thinks, that not the asthma itself, but a particular effect of it, was removed by this medicine. He observes, that, in all asthmas, the free circulation of the blood through the pulmonary vessels is impeded: and hence, during every paroxysm, the lungs are in a kind of œdematous state: that if this œdema, becoming habitual, remain after the fit is over, it is either perpetually occasioning fresh ones, or gives rise to a dropsy of the breast: that acrid medicines, by removing the œdema, remove what was originally an effect of the asthma, and will be, in time, a cause of its aggravation.

AROMATICS.

AROMATICS are substances of a warm pungent taste, and a more or less fragrant smell. Some

of the spices are purely aromatic, as cubebs, pepper, cloves; some substances have a sweetness mixed

with the aromatic matter, as angelica root, aniseed, fennel seed; some an astringency, as cinnamon; some a strong mucilage, as casia-lignea: some a bitterness, as orange peel. The aromatic matter itself, contained in different subjects, differs also not a little in its pharmaceutical properties. It is extracted from all by rectified spirit of wine; from some in great part, from others scarcely at all, by water. The aromatic matter of some subjects, as of lemon peel, rises wholly in distillation, both with spirit and water; that of others, as cinnamon, rises wholly with water, but scarce-

ly at all with spirit; while that of others, as pepper, is in part left behind, after the distillation of water itself from the spice.

With regard to the general virtues of aromatics, they warm the stomach, and by degrees the whole habit, raise the pulse, and quicken the circulation. In cold languid cases, phlegmatic habits, and a weak flaccid state of the solids, they support the *vis vitæ*, and promote the salutary secretions. In hot bilious temperaments, plethoric habits, inflammatory indispositions, dryness and strictures of the fibres, they are generally hurtful.

BITTERS.

GENTIAN ROOT,
HOPS,

LESSER CENTAURY,
CARDUUS, &c.

BITTERS for the most part yield their virtue both to watery and spirituous menstrua; some more perfectly to one, and others to the other. None of the substances of this class give over any thing considerable of their taste in distillation, either to water or to spirit; their bitterness remaining entire, and frequently improved, in the extracts. Such as are accompanied with flavour, as wormwood, may, by this process, be reduced into simple flavourless bitters.

These substances participate of the virtues of astringents and aromatics. Their general effects are, to constringe the fibres of the stomach and intestines, to warm the habit, attenuate the bile and juices in the first passages, and promote the natural evacuations, particularly of sweat and urine. In weakness of the stomach, loss of appe-

tite, indigestion, and the like disorders, proceeding from a laxity of the solids, or cold sluggish indisposition of the juices, these kinds of medicines do service. Where the fibres are already too tense and rigid, where there is any immoderate heat or inflammation, bitters very sensibly increase the distemper; and if their use be continued, communicate it to the kidneys: hence the urine becomes high coloured, small in quantity, and, at length, suppressed; a dropsy soon succeeding. If the kidneys were before so lax, as to remain now uninjured, yet the other viscera become gradually more and more rigid, and a tabes is at length brought on.

Bitter substances destroy insects, and prevent putrefaction. Hence they are recommended as anthelmintic; and externally as antiseptics.

EMETICS AND CATHARTICS.

HELLEBORE,
JALAP,
IPECACOANHA,

COLOCYNTH,
SCAMMONY,
GAMBOGE, &c.

THESE substances consist of a resinous part, in which the purgative or emetic quality resides; and a gummy saline one, which acts chiefly as a diuretic. The former is extracted or dissolved by vinous spirits; the latter by water. Nothing arises in distillation from either.

The acrid resins, exhibited by themselves, tenaciously adhere to the coats of the intestines, by their stimulating power irritate and inflame them, and thus produce sundry violent disorders. Hoffman relates, that he has sometimes observed convulsions, and a paralysis of both sides, from their use.

These inconveniences may be avoided, by previously triturating them with substances capable of dividing their tenacious texture, and preventing their adhesion; by these means, they become mild and safe, operate without disturbance, and, at the same time, more effectually answer the purposes intended by them.

Some have endeavoured to correct the ill quality of the resinous purgatives, by the addition of acids and aromatic oils. Acids weaken their power, but have no other effect than what a diminution of the dose would equally answer. The pungent essential oils may serve to warm the stomach, make the medicine sit easier, and thus prevent the nausea, which sometimes happens; but as soon as the resin begins to exert itself in the intestines, these oils, instead of correcting, increase its virulence; being themselves apt

to occasion the inconveniences which they are here intended to prevent, an irritation and inflammation of the bowels. Alkaline salts or soaps have a better effect; as they dispose the resin to solution, and promote its operation.

The medicines of this class seem to act by liquefying the juices, and stimulating the coats of the stomach and intestines. If the irritation be strong and sudden, their action is quick and upwards: if slower, downwards. Cathartics, given in a liquid form, or in very sensible habits, often prove emetic; and emetics, where mucus abounds, cathartic. They operate more violently in robust constitutions than in those of a contrary temperament: the vessels being in the former more tense and rigid, and consequently less capable of bearing an equal degree of irritation.

The action of these medicines is extended beyond the *primæ viæ*. This appears evident from the increase of the pulse, which always accompanies their operation; and from the common observation of children's being purged by the milk, if the nurses have taken a cathartic. Some of them, particularly hellebore, are said to purge, if only applied externally in issues. Purgatives, even of the more powerful kind, exhibited in suitable small doses, in conjunction with the milder aperients, may be introduced into the habit, so as to prove notable deobstruents, diuretics, and diaphoretics, without acting sensibly by stool.

The foregoing observations are inserted, not with any view to a method of simples, but to give a general idea of the virtues of such

medicinal substances as are possessed of the qualities which make the objects of the respective articles. I shall dwell no longer on general reflections, but proceed to an account of each of the simples separately.

ABIIETIS lignum, summitates, Pini piceæ vel Pini abietis Lin. The silver and the red fir; their wood, tops, and cones.

These are large ever-green trees, frequent in the northern climates. The first is said to be found wild in some parts of England, and the second on the hills of Scotland. From these trees, in different parts of Germany, the Strasburgh turpentine is extracted, of which hereafter. The wood, and the fruit or cones, gathered about the end of autumn, abound with resinous matter, and yield, in distillation with water, an essential oil, not greatly different from that obtained by the same means from turpentine.—The wood and tops of the fir trees, on account of their resinous juice, are sometimes employed in decoctions and diet drinks, for promoting urine and sweat, purifying the blood and juices, and cleansing and healing internal ulcerations, particularly those of the urinary passages. See the article *TEREBINTHINA*.

MED. VIRT. diuretic, and diaphoretic.

PREP. Decoction.

ABROTONI MARIS folia: Artemisæ abrotoni Lin. Spec. Plant. Southernwood; the leaves [L. E.]

This is a shrubby plant, clothed with very finely divided leaves, of a greyish green colour: the flowers, which are very small and yellowish, hang downwards, several together, from the middle of the branches to the top. It is a native of the warmer countries; in this it is cultivated in gardens: the leaves fall off every winter: the roots and stalks abide many years.

Southernwood has a strong, not

very disagreeable smell; and a nauseous, pungent, bitter taste; which is totally extracted by rectified spirit, less perfectly by watery liquors. It is recommended as an *anthelmintic*; and in cold leucophlegmatic habits, as a *stimulant*, *detergent*, *aperient*, and *sudorific*. The present practice has almost entirely confined its use to external applications. The leaves are frequently employed in *discutient* and *antiseptic fomentations*; and have been recommended also in lotions and unguents for *cutaneous eruptions*, and the *falling off of the hair*.

MED. VIRT. *Stimulant*; *detergent*; *aperient*, and *sudorific*.

PREP. *Decoction*, and *Tincture*;—*Lotion*, and *Ointment* for cutaneous eruptions.

ABROTONI FEMINÆ folia: Santolinæ chamæcyparissî Lin. Lavendar-cotton; the leaves.

This plant is all over white and hoary: the leaves are composed of small knobs set in rows along a middle rib; the flowers stand upright on the tops of the stalks. It is raised in gardens, flowers in June and July, and holds its leaves all the winter.

The *abrotonum femina* is supposed to possess the same virtues with the *mas*; but in a less degree. For external purposes, the medicinal difference betwixt them is not very great.—The *abrotonum femina* is recommended by some in *hysteric* and other *female complaints*: it has been customary among the common people to use a decoction of it in milk against worms.

MED. VIRT. *Stimulant*, *detergent*, and *anthelmintic*.

PREP. *Decoction*, and *Ointment* for cutaneous eruptions.

ABSINTHII VULGARIS *folia: Artemisia absinthii* Lin. Common wormwood; the leaves [L. E.]

The leaves of this sort of wormwood are divided into roundish segments, of a dull green colour above, and whitish underneath. It grows wild in several parts of England; about London large quantities are cultivated for medicinal use: it flowers in June and July; and, after having ripened its seeds, dies down to the ground, except a tuft of the lower leaves, which generally abides the winter.

Wormwood is a strong bitter: and was formerly much used as such, against weakness of the stomach, and the like, in medicated wines and ales. At present it is rarely employed in these intentions, on account of the ill relish and offensive smell with which it is accompanied. From these it may be in part freed by keeping, and totally by long coction, the bitter remaining entire. An extract, made by boiling the leaves in a large quantity of water, and evaporating the liquor with a strong fire, proves a bitter sufficiently grateful, without any disgusting flavour. — An oil distilled from this plant [L. E.] and an extract [E.] are kept in the shops.

MED. VIRT. *Stomachic, corroborant, anthelmintic.*

PREP. Oil — *Extract.* — *Conserv.* — in Common Fomentation — *Green Oil.*

ABSINTHII MARITIMI *summitates: Artemisia maritima* Lin. Sea wormwood, commonly, but falsely, called Roman wormwood; the tops [L.]

The leaves of sea wormwood are much smaller than those of the common, and hoary on the upper side, as well as the lower; the stalks also are hoary all over. It grows wild about our salt marshes,

and in several parts near the sea coasts. — In taste and smell it is weaker and less unpleasant than the common wormwood. The virtues of both are supposed to be of the same kind, and to differ only in degree. They have both been considered as *stomachic*, and *corroborant*. The essential oil of wormwood has been given internally, in doses of two or three drops, made into pills with crumbs of bread as a *vermifuge*, with success; and, on the same account, sometimes applied to the abdomen.

The tops enter three of our distilled waters, and give name to a conserve [L.] They are an ingredient also in the common fomentation and green oil [L.]

MED. VIRT. and PREP. *The same as the former.*

ABSINTHII ROMANI *folia: Artemisia maritima* Lin. — *S. P.* Roman wormwood; the leaves and tops [E.]

This species is very different in appearance from the two foregoing: it is in all its parts smaller than either; the leaves are divided into fine filaments, and hoary on the lower side; the stalks, either entirely or in part, of a purplish hue. It is a native of the warmer countries, and, at present, difficultly procurable in this, though as hardy and as easily raised as any of the other sorts. Sea wormwood has long supplied its place in the markets, and been in general mistaken for it.

Roman wormwood is less ungrateful than either of the others: its smell is tolerably pleasant: the taste, though manifestly bitter, scarce disagreeable. It appears to be the most eligible of the three as a *stomachic*; and is likewise recommended by some in *dropfies*.

MED. VIRT. and PREP. *The same as the former.*

ACACIA [E.]: the inspissated juice of the unripe fruit of a large prickly tree. *Mimosa nilotica* Lin. S. P.

This juice is brought to us from Egypt, in roundish masses, wrapt up in thin bladders. It is outwardly of a deep brown colour, inclining to black; inwardly of a reddish or yellowish brown; of a firm consistence, but not very dry. It soon softens in the mouth, and discovers a rough, not disagreeable taste, which is followed by a sweetish relish. This inspissated juice entirely dissolves in watery liquors; but is scarce sensibly acted on by rectified spirit.

Acacia is a mild astringent medicine. The Egyptians give it in spitting of blood, in the quantity of a dram, dissolved in any convenient liquor; and repeat this dose occasionally: they likewise employ it in collyria for strengthening the eyes, and in gargarisms for quinsies. What is usually sold for the Egyptian acacia, is the inspissated juice of unripe sloes: this is harder, heavier, of a darker colour, and somewhat sharper taste, than the true sort.

MED. VIRT. *Astringent.*

ACANTHI folia: *Acanthi sativi* vel *mollis Virgilii* C. B. Brankursine; the leaves.

This is a beautiful plant, growing naturally in Italy, and other warm climates: from its leaves, the ancients are said to have taken the idea of their most beautiful order of architecture. All the parts of it have a soft sweetish taste, and abound with a mucilaginous juice: its virtues do not seem to differ from those of althæa and other mucilaginous plants.

ACETOSA vulgaris, *Acetosa pratensis* [L. E.] Common sorrel; the roots and leaves.

Sorrel grows wild in fields and

meadows throughout England. The leaves have a restringent acid taste, without any smell or particular flavour. Their medical effects are, to cool, quench thirst, and promote the urinary discharge: a decoction of them in whey affords an useful and agreeable drink in febrile or inflammatory disorders; used also against bilious and scorbutic acrimony, and is recommended by Boerhaave to be used in the spring as one of the most efficacious aperients and detergents. Some kinds of scurvy have yielded to the continued use of this medicine: the Greenlanders, who are very subject to this distemper, are said to employ, with good success, a mixture of the juices of sorrel and scurvygrafs. The only officinal preparation of this plant, is an essential salt from the juice of the leaves [E.]

The roots of sorrel have a bitterish austere taste, without any acidity: they are said to be deobstruent and diuretic; and have sometimes had a place in aperient apozems, to which they impart a reddish colour.

MED. VIRT. *Astringent, antiscorbutic.*

PREP. *An essential Salt for taking out Spots in Clothes — A Decoction.*

ACETUM [L. E.] Vinegar: an acid produced from fermented vinous liquors by a second fermentation. See page 5.

Wine vinegar is considerably purer than that prepared from malt liquors; the latter, however acid and fine, contains a large portion of a viscous mucilaginous substance; as is evident from the ropiness and sliminess to which this kind of vinegar is very much subject; the stronger and more spirituous the wine, the better and stronger vinegar it yields. The French vinegars are said by Geof-

froy to saturate above one-thirty-fifth of their weight of fixt alkaline salt, and some of them no less than one-twelfth; the best of the German vinegars little more than one-fortieth.

Vinegar is a medicine of excellent use in all kinds of *inflammatory and putrid disorders*, either internal or external: in *ardent, bilious fevers, pestilential, and other malignant distempers*, it is recommended by Boerhaave as one of the most certain *sudorifics*. (See the section of acids, page 66.) *Weakness, fainting, vomiting, hysterical, and hypocondriacal* complaints, have been frequently relieved by vinegar applied to the mouth and nose, or received into the stomach. It has been used internally in rabies canina; water, sweetened with honey, and strongly medicated with vinegar, is esteemed an *antidote against vegetable poisons*—but should be preceded by an emetic of antimonium tartarifatum, or vitriolum album.—Distilled vinegar in the quantity of two or three ounces in a day, for a continuance, premised by bleeding, is recommended in maniacal cases.

MED. VIRT. *Cordial, refrigerant, sudorific, and antiseptic.*

PREP. *A distilled spirit.*

ACONITUM, [E. L.] *Aconitum Napellus* Lin. S. P. Blue Wolfsbane.

This is a perennial plant, having many stalks arising from one root, alternate petiolated leaves divided into five parts, each portion cut into linear segments; and terminal bunches of irregular blue flowers with five petals, many stamina, and three pistils, succeeded by three capsules containing seeds. It is a native of various parts of Europe and Virginia. It is found also in the mountainous parts of Virginia and Switzerland, and in gardens.

Blue wolfsbane, when first gathered, has a strong smell, but no peculiar taste: and has long been known to be one of the most virulent of the vegetable poisons. It occasions giddiness, convulsions, violent purgings both upwards and downwards, faintings, cold sweats, and even death itself. Dr. Stœrck was the first who ventured to introduce it into medicine. His formula was two grains of the inspissated juice rubbed down with two drams of sugar. Ten grains of this was given night and morning, and increased gradually to six drachms twice a day. But the common dose now is from half a grain to four twice a day, or of a tincture made with six parts of the dried leaves to one part spirits of wine—dose twenty to forty drops; and by persisting in the use of it, great relief was obtained in *fixed rheumatic and arthritic pains, spina ventosa, itch, scirrhus tumours, venereal nodes, anchyloses, amaurosis, and other similar complaints; intermitting fevers, convulsive disorders.*

MED. VIRT. *Narcotic.*

PREP. *Powder — Tincture — Extract.*

ADIANTHI VERI seu capilli Veneris folia Lin. True maidenhair; the leaves.

This is a low evergreen herb, and one of those which, from the slenderness of their stalk, are called capillary. It is a native of Italy, and the southern parts of France; whence the leaves are sometimes brought to us. These have an agreeable, but very weak smell; and a mucilaginous somewhat roughish taste, which they readily impart to boiling water.

Maidenhair has been greatly celebrated in *disorders of the breast, proceeding from a thinness and acrimony of the juices; and likewise for opening obstructions of the viscera, and*

promoting the expectoration of tough phlegm. But modern practice pays little regard to it; nor is it often to be met with in the shops; the TRICHOMANES, or *English maiden-hair*, which is of the same quality, generally supplying its place.

MED. VIRT. *Attenuating, aperient.*

PREP. *Decoction.* — *Infusion* with liquorice, and sweetened — drank as tea.

ÆRUGO [L. E.] Verdegris: This is a preparation of copper, made chiefly at Montpellier in France, by stratifying copper-plates with grape stalks that have been impregnated with a fermented vegetable acid. In a few days, the plates are found covered with a pale-green downy matter, which is scraped off from the copper and the process again repeated.

Verdegris, as it comes to us, is generally mingled with stalks of the grape; these may be separated, in pulverisation, by discontinuing the operation, as soon as what remains seems to be almost entirely composed of them.

Verdegris is rarely or never used internally. Some writers greatly extol it as an *emetic*, and say, that a grain or two being taken, it acts as soon as received into the stomach; but its use has been too often followed by dangerous consequences. (See the article CUPRUM.) — Verdegris, applied externally, proves a *gentle detergent* and *escharotic*, and serves to take down *fungous flesh arising in wounds*, and *clean foul ulcers*.

MED. VIRT. *Detergent — escharotic.*

PREP. *A Honey — Ointment — Balsam.*

AGALLOCHUM seu lignum aloes. Aloes wood.

There have been different con-

jectures concerning this wood, but no satisfactory account of it has hitherto appeared. Authors distinguish several sorts of Agallochum, most of which are strangers to Europe. That which comes to us is in little hard ponderous pieces, of a yellowish-brown colour, with several black or purplish veins. It has a bitterish aromatic taste: and a fragrant smell, especially if reduced to powder, or set on fire. Distilled with water, it affords a very fragrant essential oil, but in small quantity: digested in rectified spirit, it yields an elegant tincture, which loses nothing valuable in being evaporated to the consistence of an extract.

Agallochum is at present of very little use in medicine, and rarely to be met with in the shops. If it could be easily procured, at least the better sort of it bids fair to be a very useful cordial. Hoffman greatly recommends, in this intention, the distilled oil, and spirituous tincture: and esteems a *mixture of this latter with tincture of steel an excellent corroborant*.

AGARICUS: *Boletus Pini* — *Laricis* Lin. Agaric; a fungus growing on old larch trees.

This fungus is an irregular spongy substance, extremely light, and of a uniform snowy whiteness (except the cortical part, which is usually taken off before the agaric is brought into the shops). It cuts freely with a knife, without discovering any hardness or grittiness, and readily crumbles betwixt the fingers into a powder. It has no remarkable smell; its taste is at first sweetish, but on chewing for a little while, proves acrid, bitter, and nauseous.

Agaric was formerly in great esteem as a *cathartic*, but the present practice has almost entirely

rejected its use. It operates exceeding slowly, inasmuch that some have denied it to have any purgative virtue at all. Given in substance, it almost *always occasions a nausea*, not unfrequently *vomiting*, and sometimes *excessive tormina of the bowels*; these effects are attributed to its light farinaceous matter adhering to the coats of the intestines, and producing a constant irritation. The best preparation of agaric seems to be an extract made with water, in which fixt alkaline salt has been dissolved; or with vinegar or wine; the first is said by Boulduc, and the other two by Neumann, to prove *effectual and safe purgatives*. Nevertheless, this is at best a precarious medicine, of which we stand in no manner of need.

MED. VIRT. *Cathartic.*

PREPAR. *Aqueous Extract*—not now in use.

AGARICUS. *Boletus igniarius* Lin. [E.] Female agaric, or agaric of the oak; called, from its being very easily inflammable, touchwood, or spunk.

This fungus is frequently met with, on different kinds of trees, in England; and is said to have been sometimes brought into the shops mixt with the true agaric of the larch. From this it is easily distinguishable by its greater weight, dusky colour, and mucilaginous taste, void of bitterness. The medullary part of this fungus, beaten soft, and applied externally, has been greatly celebrated as a *styptic*, and said to *restrain not only venal but arterial hæmorrhages*, without the use of ligatures. It does not appear, however, to have any real styptic power, or to act any otherwise than dry lint, sponge, or other soft fungous applications.

MED. VIRT. *Styptic.*

PREPAR. Pieces applied externally.

AGRIMONIÆ folia: *agrimonia eupatoria*—Agrimony; the leaves. Lin.

This is a common plant in hedges, and the borders of fields. The leaves have an herbaceous, somewhat acrid, roughish taste, accompanied with an aromatic flavour. Agrimony is said to be *aperient, detergent*, and to *strengthen the tone of the viscera*: hence it is recommended in *scorbutic disorders*, in *debility and laxity of the intestines*, &c. Digested in whey, it affords an useful diet-drink for the spring season, not ungrateful to the palate or stomach.

MED. VIRT. *Attenuant and tonic.*

PREPAR. *Infused* in whey, it forms a diet-drink used by some in spring.

ALCEÆ folia: *malva verbenacæ*. Vervain mallow; the leaves.

This is easily distinguishable from the common and marsh mallow, by its leaves being jagged or cut in about the edges. It grows in hedges, and flowers the greatest part of the summer. *Alcea* agrees in quality with the *ALTHÆA* and *MALVA VULGARIS*; but appears to be less mucilaginous than either.

ALCHIMILLÆ folia: *Alchimilla vulgaris*, Lin. Lady's mantle; the leaves.

This grows wild in many parts of England, but is rarely met with about London. The leaves seem as if plaited or folded together, so as to have given occasion to the English name of the plant. The leaves of alchimilla discover to the taste a moderate astringency, and were formerly much esteemed in *some female weaknesses*, and in *fluxes of the belly*. They are now rarely made use of; though both the leaves and roots might, doubtless, be of service in cases where mild astringents are required.

MED. VIRT. *Astringent.*

ALKEKengi seu *halicacabi fructus*: *Alkekengi Physalis*, Lin.

Winter cherry: the fruit.

This is a low, branched shrub, bearing leaves like those of nightshade; with white flowers, which stand single at the points. The flower-cup changes into a membranous cover, which at length bursts, and discovers a fruit of a fine red colour, about the size of a common cherry. The fruit ripens in October, and continues frequently to the middle of December. This plant grows wild in some parts of France, Germany, &c. The beauty and lateness of its fruit have gained it a place in our gardens.

Winter cherries are said by most writers to be extremely bitter: but, as Haller justly observes, the cherry itself, if carefully freed from the cover (which is very bitter and pungent), has merely a subacid taste. They stand highly recommended as *detergent*, *aperient*, *diuretic*, and for *expelling gravel*: four, five, or more of the cherries are directed for a dose, or an ounce of the expressed juice. Mr. Ray tells us of a gouty person who was cured and kept free from returns of his disorder, by taking eight of these cherries at each change of the moon; these occasioned a copious discharge of extremely foetid urine.

MED. VIRT. *Aperient* and *diuretic*.

PREPAR. *Dried and powdered*.—*Inspissated juice*.

ALLIARIÆ folia. *Erysimi alliariae*, Lin. Sauce alone, or jack by the hedge; the leaves.

This is common in hedges and shady waste places, flowering in May and June. The leaves have a bitterish acrid taste, and, when rubbed betwixt the fingers, a strong smell, approaching to that of garlic. They are recommended in-

ternally as *sudorifics* and *deobstruents*, somewhat of the nature of garlic, but much milder; and externally as *antiseptics* in *gangrenes* and *cancerous ulcers*. Hildanus used to gather the herb for these last purposes in the spring, and expose it for a day to the action of a dry air in a shady place; being then committed to the press, it yielded a juice possessing the smell and taste of the alliaria: this, he informs us, with a little oil on the surface, keeps in perfection for years; whereas the herb in substance soon loses its virtue in keeping.

MED. VIRT. *Sudorific* — *deobstruent*.

ALLIUM: *radix Allii sativi*—*Lin. S. P.* Garlic; the roots [*L. E.*]

These roots are of the bulbous kind, of an irregularly roundish shape, with several fibres at the bottom: each root is composed of a number of lesser bulbs, called cloves of garlic, inclosed in one common membranous coat and easily separable from one another. All the parts of this plant, but more especially the roots, have a strong offensive smell, and an acrimonious, almost caustic taste. The root applied to the skin inflames, and often exulcerates the part. Its smell is extremely penetrating and diffusive; when the root is applied to the feet, its scent is soon discoverable in the breath; and when taken internally, its smell is communicated to the urine, or the matter of an issue, and perspires through the pores of the skin.

This pungent root *warms* and *stimulates the solids*, and *attenuates tenacious juices*. Hence, in cold leucophlegmatic habits, it proves a *powerful expectorant*, *diuretic*, and *emmenagogue*; and if the patient be kept warm, a *sudorific*. In *humoural asthma*, and *catarrhus*

disorders of the breast, in some scurvy, flatulent colics, hysterical and other diseases proceeding from laxity of the solids, and cold sluggish indispotion of the fluids, it has generally good effects: it has likewise been found serviceable in some hydropic cases. SYDENHAM relates, that he has known the dropsy cured by the use of garlick alone; he recommends it chiefly as a warm strengthening medicine in the beginning of the disease.

The liberal use of garlick is apt to occasion head-achs, flatulencies, thirst, febrile heats, inflammatory distempers, and sometimes discharges of blood from the hæmorrhoidal vessels. In hot bilious constitutions, where there is already a degree of irritation, where the juices are too thin and acrimonious, or the viscera unsound; this stimulating medicine is manifestly improper, and never fails to aggravate the distemper.

The most commodious form for the taking of garlick, a medicine to most people not a little unpleasant, is that of a bolus or pill. Infusions in spirit, wine, vinegar, and water, although containing the whole of its virtues, are so acrimonious, as to be unfit for general use. A syrup and oxymel of it are kept in the shops.

Garlick infused in brandy is a medicine esteemed highly useful in gouty affections of the stomach:—where its operation is intended to be long continued, and the stomach will bear it, a clove or two dipped in oil, and swallowed, has been recommended as the best mode of administration.

Garlick made into an unguent with oils, &c. and applied externally, is said to resolve and discuss cold tumours, and has been by some greatly esteemed in cutaneous diseases. It has likewise sometimes

been employed as a revellent. SYDENHAM assures us, that among all the substances which occasion a derivation or revulsion from the head, none operate more powerfully than garlick applied to the soles of the feet: hence he was led to make use of it in the confluent small pox: about the eighth day after the face began to swell, the root cut in pieces, and tied in a linen cloth, was applied to the soles, and renewed once a day till all danger was over.

MED. VIRT. *Stimulant—attenuant—discutient, and diuretic.*

PREP. *Syrup.—Oxymel.—Ointment.—Poultice.*

ALNI VULGARIS folia & cortex. Betulae Alni Lin. The leaves and bark of the alder tree. These have a bitter styptic disagreeable taste. The bark is recommended by some in *intermittent fevers*; and a decoction of it in gargarisms, for inflammations of the tonsils.

MED. VIRT. *Astringent.*

PREPAR. *Decoction.*—Leaves chopped and heated, efficacious for dispersing milk in the breasts.

ALOE. Aloe is the inspissated juice of certain plants of the same name. The ancients distinguished two sorts of aloes; the one was pure and of a yellowish colour, inclining to a red, resembling the colour of a liver, and, thence, named *hepatic*; the other was full of impurities, and, hence, supposed to be only the dross of the better kind. At present, various sorts are met with in the shops; which are distinguished either from the places, from the species of the plants, or from some differences in the juices themselves. These may be all ranged in three classes:

(1) *ALOE SOCOTORINA [L. E.]* Socotorine aloes, brought from the island Socotora in the Indian ocean, wrapt in skins; it is obtained from

the *aloe Succotorina angustifolia spinosa*, flore purpureo Bryen. & *Commelin. Varietas aloes perfoliata*, Lin.

—This sort is the purest of the three; it is of a glossy surface, clear, and in some degree pellucid; in the lump, of a yellowish red colour, with a purple cast; when reduced to powder, of a bright golden colour. It is hard and friable in the winter, somewhat pliable in summer, and grows soft betwixt the fingers. Its taste is bitter, accompanied with an aromatic flavour, but insufficient to prevent its being disagreeable; the smell is not very unpleasant, and somewhat resembles that of myrrh.

(2) *ALOE HEPATICA* [E.] — *Barbadenfis* [L.] — *aloe perfoliata* Lin. Hepatic, Barbadoes, or common aloes; the juice of the *Aloe C. B. aloe vera vulgaris* Munting. — Hepatic aloes is not so clear and bright as the foregoing sort; it is also of a darker colour, more compact texture, and for the most part drier. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the fine aromatic flavour of the Socotorine. — The best hepatic aloes comes from Barbadoes, in large gourd shells; an inferior sort of it (which is generally soft and clammy) is brought over in casks.

(3) *ALOE CABALLINA*. Fetid, caballine, or horse aloes; the produce of the *aloe Guineensis caballina vulgari similis sed tota maculata* *Commelin*. — This sort is easily distinguished from both the foregoing, by its strong rank smell; although, in other respects, it agrees pretty much with the hepatic, and is not unfrequently sold in its stead. Sometimes the caballine aloes is prepared so pure and bright, as not to be distinguishable by the eye even from the Socotorine; but its offensive smell, of which

it cannot be divested, readily betrays it.

All the sorts of aloes dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the assistance of heat in water alone; but as the liquor grows cold, the resinous part subsides, the gummy remaining united with the water. The hepatic aloes is found to contain more resin, and less gum, than the Socotorine, and this than the caballine. The resins of all the sorts, purified by spirit of wine, have little smell; that obtained from the Socotorine has scarce any perceptible taste; that from the hepatic, a slight bitterish relish, and the resin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the sorts are less disagreeable than the crude aloes: the extract of Socotorine aloes has very little smell, and is in taste not unpleasant; that of the hepatic has a somewhat stronger smell, but is rather more agreeable in taste than the extract of the Socotorine: the gum of the caballine retains a considerable share of the peculiar rank smell of this sort of aloes, but its taste is not much more unpleasant than that of the extracts made from the two other sorts.

Aloes is a stimulating cathartic bitter: if given in so large a dose as to purge effectually, it often occasions an irritation about the anus, and sometimes a discharge of blood. *Small doses of it frequently repeated, not only cleanse the primæ viæ, but likewise attenuate and dissolve viscid juices in the remoter parts, warm the habit, quicken the circulation, and promote the uterine and hæmorrhoidal fluxes.* This medicine is particularly serviceable to persons of a phlegmatic temperament and sedentary life, and where the stomach is op-

pressed and weakened: in dry bilious habits, aloes prove injurious, immoderately heating the blood, and inflaming the bowels.

The juice is likewise, on account of its bitterness, supposed to kill worms, either taken internally, or applied in plaster to the umbilical region. It is also celebrated for restraining external hæmorrhages, and cleansing and healing wounds and ulcers.

The ancients gave aloes in much larger doses than is customary at present. Dioscorides orders half a dram or a dram for gently loosening the belly: and three drams when intended to have the full effect of a cathartic. But modern practice rarely exceeds a scruple, and limits the greatest dose to two scruples. For the common purposes of this medicine, ten or twelve grains suffice: taken in these or less quantities, it acts as a gentle stimulating eccoprotic, capable of removing, if duly continued, very obstinate obstructions.

Aloes in doses of a few grains is occasionally mixed into pills, with a third, or equal parts, of some saponaceous or solvent body, such as extract of liquorice, and gentian, *sapo albus*, or the like; and is seldom given in large doses, or to hot bilious habits: it is a slow, but sure-working purge, and is generally taken at bed time, seldom operating until the next day. Aloes, particularly in its operation, affects the rectum; its preparations are on that account sometimes employed in larger doses, to produce the bleeding piles, when they have been suddenly and injuriously suppressed. The particular purposes for which the different preparations are administered will be given under their respective heads.

Some are of opinion, that the purgative virtue of aloes resides entirely in its resin; but experience has shewn, that the pure resin has

little or no purgative quality; and that the gummy part, separated from the resinous, acts more powerfully than crude aloes. If the aloes, indeed, be made to undergo long coction in the preparation of the gummy extract, its cathartic power will be considerably lessened, not from the separation of the resin, but from an alteration made in the juice itself by the heat. The strongest vegetable cathartics become mild by a like treatment, without any remarkable separation of their parts.

Socotorine aloes, as already observed, contains more gummy matter than the hepatic; and hence it is likewise found to purge more, and with greater irritation. The former sort, therefore, is most proper where a stimulus is required, as for promoting or exciting the menstrual flux; while the latter is better calculated to act as a common purge. It is supposed that the vulnerary and balsamic virtues of this juice reside chiefly in the resin; and hence that the hepatic aloes, which is most resinous, is most serviceable in external application.

The Edinburgh college directs the hepatic aloes in the *tinct. benzoini comp.* and *tinctura myrrhe et aloes*, designed for external use; and the Socotorine in those preparations or compositions which are to be taken internally, as the *elixir rhæi c. al. pulvis hieræ picæ, pilulæ aloeticæ, pilulæ aloes c. myrrh. pilulæ stomachicæ, alces c. colocynth, &c.*

The London college uses the Socotorine only. In the *vinum aloes, tinct. aloes, comp. tinct. benzoës, comp. pulv. aloeticus e guaiaco*, and the other pills or powders wherein aloes is an ingredient, the Socotorine kind in substance is directed. In the *pulvis aloeticus*, only the pure gummy part of the Socotorine aloes is employed, the separation of which from the resinous matter is given in a distinct process.

MED. VIRT. Cathartic.

PREPAR. *Inspissated juice*—ingredient in several tinctures and pills.

ALSINES folia. *Alfines medicæ,* Lin. Chickweed; the leaves.

This plant was employed by the ancients externally against erysipelatous and other inflammatory disorders. Later times have given it internally in hæmoptoës, as a restorative in atrophies and consumptions, and likewise as an antepileptic. Some recommend for these purposes the expressed juice, to be taken to the quantity of an ounce; others the dried leaves, in the dose of a dram; and others, a water distilled from them. But if any real benefit be expected from *alfine*, it ought to be used liberally as food; though even then, its effects would not, perhaps, be superior to those of more approved culinary herbs.

MED. VIRT. *Refrigerant.*

ALTHÆÆ folia, radix: *Althæa officinalis,* Lin. Marsh-mallows; the leaves and root [L. E.]

This plant grows wild in marshes, and other moist places, in several parts of England; though frequently cultivated for medicinal use in gardens. All the parts of it have a slimy taste, and abound with a soft mucilaginous substance, which is readily extracted by water: the mucilage of the roots appears to be the strongest; and, hence, this part is generally made use of in preference to the others.

This plant has the general virtues of an emollient medicine; and proves serviceable in a thin acrimonious state of the juices, and where the natural mucus of the intestines is abraded. It is chiefly recommended in sharp defluxions upon the lungs, hoarsenesses, dysenteries, and likewise in nephritic and calculous complaints; and is given in decoction and infusion, with pearl bar-

ley, and liquorice root, and with gum for the relief of dysury and nephritic complaints. Not, as some have supposed, that this medicine has any peculiar power of dissolving or expelling the calculus; but as, by lubricating and relaxing the vessels, it procures a more free and easy passage. Althæa root is sometimes employed externally for softening and maturing hard tumours: chewed, it is said to give ease in difficult dentition of children.

MED. VIRT. *Emollient.*

PREPAR. *Syrup—Ointment.*

ALUMEN [L. E.] *Argilla vitriolata.* Alum.

Alum is a salt artificially produced from certain minerals, by calcining and exposing them to the air; after which the alum is elixated by means of water. The largest quantities are prepared in England, Germany, and Italy.

This salt is of a white or pale red colour, of an austere styptic taste, accompanied with a nauseous sweetness. It dissolves in about twelve times its weight of water; and concretes again, upon duly evaporating the solution, into semitransparent crystals of an octagonal figure. Exposed to the fire, it easily melts, bubbles up in blisters, emits a copious phlegm, and then turns into a light spongy white mass, considerably more acrid than the alum was at first: this, urged with a stronger fire, yields a small quantity of acid spirit, similar to that obtained by the same means from vitriol; the part which remains, if the heat has been sufficiently intense and long continued, is an insipid white earth, readily soluble in every kind of acid.

Solutions of alum coagulate milk, change the blue colour of vegetable juices into a red or purple, and turn an infusion of galls turbid and whitish. Upon adding fixt alkaline salts to these solutions, the earth of

the alum is precipitated, its acid uniting with the alkali into a neutral saline concrete similar to vitriolated tartar.

Alum is a powerful astringent; it is reckoned particularly serviceable for *restraining hæmorrhages*, and *immoderate secretions from the blood*; but less proper in intestinal fluxes. In *violent hæmorrhages*, it may be given in doses of fifteen or twenty grains, nay even to thirty, and repeated every hour or half hour till the bleeding abates: in other cases, smaller doses are more adviseable; large ones being apt to nauseate the stomach, and occasion violent constipations of the bowels. It is best exhibited with dragon's blood, or gum kino, gum arabic, spermaceti, or opium. It is used also externally, in astringent and repellent lotions, gargles, and collyria. From three to six grains of alum and canella alba with about one dram of Peruvian bark, taken three or four times a day, have prevented the return of obstinate intermitteints.

The *alumen ustum* is no other than the alum dried by fire, or freed from the watery moisture, which, like other salts, it always retains in its crystalline form. By this loss of its water it becomes sharper, so as to act as a slight escharotic. In this state it has been given in doses of a scruple as a laxative in colic.

MED. VIRT. *Strongly astringent.*

PREPAR. *Styptic powder—Styptic water-whey—Coagulum, &c.*

AMBRAGRISÆA. *Ambra ambrosiaca, Lin.*

Ambergris is a bituminous substance, of a greyish or ash colour, intermingled with yellowish and blackish specks or veins: it is usually met with in little opaque rugged masses, very light, of a loose texture, friable in a certain degree like wax; they break rough and uneven, and not unfrequently contain pieces of shells, bones of fishes,

and other like matters. This concrete is found floating on the surface of the sea, or thrown out upon the shores; the greatest quantities are met with in the Indian ocean; pieces have likewise been now and then discovered in our own and other northern seas. It has been supposed to be an animal product, from being so frequently found in the belly of the *physeter macrocephalus*.

Pure ambergris softens betwixt the fingers; melts in a small degree of heat into the appearance of oil, and in a stronger heat proves almost totally volatile. Warmed a little, it emits a peculiar fragrant smell; set on fire, it smells like burning amber. It dissolves, though difficultly, in spirit of wine, and essential oils; but not in expressed oils or in water.

Ambergris is in general the most agreeable of the perfumes, and rarely accompanied with the inconveniencies which other substances of this class frequently occasion. It is looked upon as *an high cordial*, and esteemed of great service in *all disorders of the head*, and in *nervous complaints*. A solution of it in a spirit distilled from roses, stands recommended by Hoffman, as one of the *most efficacious corroborants of the nervous system*. The Orientals entertain an high opinion of the *aphrodisiac virtues* of this concrete; and likewise suppose that the frequent use of it *conduces to long life*.

MED. VIRT. *Cordial.*

PREPAR. *Tincture or essence.*

AMMEOS VERI semen. *Sifonis Ammeos, Lin.* The seeds of the true ammi or bishopsweed, brought from Egypt.

These are small striated seeds, of a reddish brown colour, a warm pungent taste, and a pleasant smell approaching to that of *origanum*. They are recommended as *stoma-*

ehic, carminative, and diuretic: but have long been strangers to the shops.

MED. VIRT. *Stimulant.*

AMMONIACUM GUMMI—*[L. E.]* Ammoniacum is a concrete gummy resinous juice, brought from the East Indies, usually in large masses, composed of little lumps or tears, of a milky colour, but soon changing, upon being exposed to the air, of a yellowish hue. We have no certain account of the plant which affords this juice. The seeds usually found among the tears resemble those of the umbelliferous class. It has however been said to be an exudation from a species of *ferula*. Such tears as are large, dry, free from little stones, seeds, or other impurities, should be picked out, and preferred for internal use; the coarser kind is purified by solution and colature, and then carefully inspissating it; unless this be artfully managed, the gum will lose a considerable deal of its more volatile parts. There is often vend- ed in the shops, under the name of strained gum ammoniacum, a composition of ingredients much inferior in virtue.

Ammoniacum has a nauseous sweet taste, followed by a bitter one; and a peculiar smell somewhat like that of galbanum, but more grateful; it softens in the mouth, and grows of a whiter colour upon being chewed. Thrown upon live coals, it burns away in flame: it is in some measure soluble in water and in vinegar, with which it assumes the appearance of milk; but the resinous part, amounting to about one half, subsides, on standing.

Ammoniacum is an useful *deob-* *fruent*; and frequently prescribed for opening *obstructions of the abdominal viscera*, and in *hysterical disorders* occasioned by a deficiency of the menstrual evacuations. It

is likewise supposed to *deterge the pulmonary vessels*, and proves of considerable service in some kinds of *asthmas* where the lungs are oppressed by viscid phlegm; in this intention, a solution of gum ammoniacum in vinegar of squills proves a medicine of great efficacy, though not a little unpleasant. *In long and obstinate colics*, proceeding from viscid matter lodged in the intestines, this gummy resin has produced happy effects, after purges and the common carminatives had been used in vain. Ammoniacum is most commodiously taken in the form of pills: about a scruple may be given every night, or oftener. Externally it softens and ripens hard tumours: a solution of it in vinegar stands recommended by some for resolving even schirrous swellings. A plaster made of ammoniacum and squill vinegar, is recommended by some in white swellings—a dilute solution of the same is likewise rubbed on the parts, which are also fumigated with the smoke of juniper berries. Notwithstanding all which, Dr. Cullen thinks its antispasmodic power inconsiderable, its expectorant and resolvent very doubtful.

MED. VIRT. *Aperient; antispasmodic; emollient; deobstruent; expectorant.*

PREPAR. *A solution*—an ingredient in several pectoral compositions, and discutient plasters.

AMYGDALÆ AMARÆ et DULCES. *Nucleus amygdalus communis variet. Lin. S. P.* Sweet and bitter almonds *[L. E.]* The kernel.

The almond is a flattish kernel, of a white colour, covered with a thin brownish skin; of a soft sweet taste; or a disagreeable bitter one. The skins of both sorts are unpleasant, and covered with an acrid powdery substance; they are very apt to become rancid on keeping,

and to be preyed on by a kind of insect, which eats out the internal part, leaving the almond to appearance entire. To these circumstances regard ought to be had in the choice of them.

The fruit which affords these kernels, is the produce of a tree greatly resembling the peach, called by C. B. *amygdalus sativa*. The eye distinguishes no difference betwixt the trees which produce the sweet and bitter, or betwixt the kernels themselves. It is said that the same tree has, by a difference in culture, afforded both.

Both sorts of almonds yield, on expression, a large quantity of oil, which has no smell, or any particular taste. This oil separates likewise upon boiling the almonds in water, and is gradually collected on the surface: but, on trituration the almonds with water, the oil and water unite together, by the mediation of the other matter of the kernel, and form an unctuous milky liquor.

Sweet almonds are of greater use in food than as medicines: but they are reckoned to afford little nourishment, and when eaten in substance, are not easy of digestion, unless thoroughly comminuted. They are supposed, on account of their soft unctuous quality, to *abund* acrimonious juices in the *primæ viæ*: peeled sweet almonds, eaten six or eight at a time, sometimes give present relief in the heartburn.

Bitter almonds have been found *poisonous to dogs, and sundry other animals*; and a water distilled from them, when made of a certain degree of strength, has had like effects. Nevertheless, when eaten, they appear innocent to men, and have been not unfrequently used as medicines. Boerhaave recommends them, in substance, as *diuretics*,

which heat but moderately, and which may therefore be ventured upon in acute diseases.

The oils obtained by expression from both sorts of almonds are in their sensible qualities the same. The general virtues of these oils are, to *blunt acrimonious humours*, and to *soften and relax the solids*; hence their use internally, in tickling coughs, heat of urine, pains, and inflammations; and, externally, in tension and rigidity of particular parts.

Their common-dose is from half an ounce to an ounce, but in some cases they are given to the quantity of three or four ounces. The most commodious forms for their exhibition are in emulsions.

The milky solutions of almonds in watery liquors, commonly called emulsions, contain the oil of the subject, and participate in some degree of the emollient virtue thereof; but have this advantage above the pure oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil might sometimes produce; since emulsions do not turn rancid or acrimonious by heat, as all the oils of this kind, in a little time, do. Several unctuous and resinous substances, of themselves not miscible with water, may by trituration with almonds be easily mixed with them into the form of an emulsion; and are thus excellently fitted for medicinal use. In this form, camphor and the resinous purgatives may be commodiously taken.

Bergius considers bitter almonds as a remedy in intermittent fevers, which he thus administers:—He first dissolves, in a pound of water, two drams of soluble tartar, and half an ounce of honey: with this he forms an emulsion with one ounce of bitter almonds, and strains it in the usual way; of this he gives,

during the intermission, a pound or two every day, and thus prevents the recurrence of the paroxysm; he acknowledges, though, that certain fevers have resisted this remedy, and obliged him to have recourse to the bark; but even then he mixes with it the bitter emulsion. But he also says, intermittent fevers have yielded to the bitter emulsion alone, after they had entirely resisted the bark.

MED. VIRT. *Relaxing.*

PREPAR. *Expressed oil.*—*Emulsion.*

Though the bitter almond with the skin is said to have other more active properties, as above explained.

ANACARDIA. *Avicennia tomentosa*, Lin. *Anacardium*, or *Malacca bean*.

This is the fruit of a tree growing in Malabar and other parts of the East Indies. It is of a shining black colour, of the shape of a heart flattened, about an inch long, terminating at one end in an obtuse point, and adhering by the other to a wrinkled stalk: it contains, within two shells, a kernel of a sweetish taste: betwixt the shells is lodged a thick and acrid juice.

But the kernel of *anacardium* is not different in quality from that of almonds. The ill effects attributed to this fruit belong only to the juice contained betwixt the kernels, whose acrimony is so great, that it is said to be employed by the Indians as a *caustic*. This juice is recommended externally for *tetter*s, *freckles*, and other *cutaneous deformities*; which it removes only by exulcerating or excoriating the part, so that a new skin comes underneath.

MED. VIRT. *Corrosive.*

PREPAR. *Oil on the outside.*

But the kernels may be used as almonds—the gum as gum arabic.

ANAGALLIDIS folia. *Ana-*

gallidis arvensis, Lin. Common male and female *pimpernel*; the leaves.

Pimpernel is a low plant, in appearance resembling *chickweed*; but easily distinguishable by its leaves being spotted underneath, and joined immediately to the stalk. The male and female *pimpernels* differ no otherwise than in the colour of their flowers; they are both found wild in the fields, but the male or red-flowered sort is more common.

Both the *pimpernels* have an herbaceous, roughish taste, with little or no smell. Many extraordinary virtues have been attributed to them. *Geoffroy* esteems them cephalic, sudorific, vulnerary, antimanical, antiepileptic, and alexeterial. *Tragus*, *Caspar Hoffman*, *Michaeli*, and others, are also very liberal in their praises; one of these gentlemen declares, that he has known numerous instances of the singular efficacy of a decoction and tincture of *pimpernel*, in maniacal and melancholic deliria. But later practitioners have not been so happy as to meet with the like success. *Pimpernel* is not unfrequently taken as food; it makes no unpleasant salad; and in some parts of this kingdom, is a common pot-herb. A spirituous tincture of it contains nothing valuable: the only preparation that promises any utility, is an extract made with water; or the expressed juice, depurated and inspissated.

MED. VIRT. *Sudorific and nervine.*

PREPAR. *Extract, or inspissated juice.*

ANCHUSÆ radix. *Anchusa tinctoria*, Lin. *Alkanet root* [*E.*]

Alkanet is a rough hairy plant, much resembling the *vipers' bugloss*: its chief difference from the common *buglosses* consists in the colour of its roots; the cortical

part of which is of a dusky red, and imparts an elegant deep red to oils, wax, and all unctuous substances, but not to watery liquors. This plant is a native of the warmer parts of Europe: it is sometimes cultivated in our gardens; but the greatest quantities are raised in Germany and France, particularly about Montpellier, whence the dried roots are usually imported to us. The alkanet root produced in England is much inferior in colour to that brought from abroad; the English being only lightly reddish, the others of a deep purplish red: this has induced some to suspect that the foreign roots owe part of their colour to art, but we think, without sufficient foundation.

Alkanet root has little or no smell; when recent, it has a bitterish astringent taste, but when dried, scarce any. As to its virtues, the present practice expects not any from it. Its chief use is for colouring oils, unguents, and plasters. As the colour is confined to the cortical part, the small roots are best, these having proportionably more bark than the large.

MED. VIRT. *Used only for colouring.*

ANETHI *semen. Anethi graveolentis, Lin.* Dill seed [L. E.]

Dill is an umbelliferous plant, cultivated in gardens, as well for culinary as medical use. The seeds are of a pale yellowish colour, in shape nearly oval, convex on one side, flat on the other. Their taste is moderately warm and pungent; their smell aromatic, but not of the most agreeable kind. These seeds are recommended as *antispasmodic* and *carminative*, in flatulent colics proceeding from a cold cause or a viscosity of the juices. They have been much employed by the nurses in England for colicky complaints of children. The most efficacious preparations of them are

the distilled oil, and a tincture or extract made with rectified spirit.

MED. VIRT. *Carminative.*

PREPAR. *Distilled oil—water—Spirituuous extract.*

ANGELICÆ *radix, folia, semen. Angelicæ Archangelicæ, Lin.* Garden angelica; the roots, leaves, and seeds [L. E.]

This is a large umbelliferous plant, growing spontaneously in the northern climates: for the use of the shops, it is cultivated in gardens, in the different parts of Europe. Bohemia and Spain are said to produce the best. Angelica roots are apt to grow mouldy, and be preyed upon by insects, unless thoroughly dried, kept in a dry place, and frequently aired. We apprehend that the roots which are subject to this inconvenience might be preserved, by dipping them in boiling spirit, or exposing them to its steam, after they are dried.

All the parts of angelica, especially the roots, have a fragrant aromatic smell; and a pleasant, bitterish warm taste, glowing upon the lips and palate for a long time after they had been chewed. The flavour of the seeds and leaves is very perishable, particularly of the latter, which, on being barely dried, lose greatest part of their taste and smell. The roots are more tenacious of their flavour, though even those lose part of it by keeping. The fresh root, wounded early in the spring, yields an odorous, yellow juice, which, slowly exsiccated, proves an elegant gummy resin, very rich in the virtues of the angelica. On drying the root, this juice concretes into distinct moleculæ, which, on cutting it longitudinally, appear distributed in little veins; in this state, they are extracted by pure spirit, but not by watery liquors.

Angelica is one of the most ele-

gant aromatics of European growth, though little regarded in the present practice. The root, which is the most efficacious part, is rarely met with in prescription, and does not enter any officinal composition. The stalks make a pleasant sweetmeat. — As to the medical virtue of Angelica, it is considered only to be a mild carminative.

MED. VIRT. *Aromatic—Carminative.*

PREP. *Sweetmeat.*

ANGUILLÆ HEPAR. The liver of the eel.

Boerhaave observes, that no fish has a more acrid gall than the eel; and says, that with pills made of the gall of the eel and pike, he has cured pale rickety children with swelled bellies: the gall powerfully promoting urine, and occasioning the belly to subside.

MED. VIRT. *Stimulant — Diuretic.*

ANGUSTURA CORTEX. *Angustura Bark [E.]*

This bark, first imported in the year 1788, was supposed to be the production of a tree on the coast of Africa; but Dr. BRUCE pronounced it to be the bark of a tree named *Woginos*, by which he was cured of a dysentery in Abyssinia; and having brought over some of the seeds, and planted them in the gardens of Kew, their product he calls *BRUCEA ANTIDYSENTERICA*, seu *FERRUGINEA*.

This bark is a powerful bitter, joined with an aroma, not much more pungent than cascarilla, having a portion of pure oil, which in its nature approaches to camphor; it seems also to possess a narcotic principle; hence differs from the cinchona, and has been considered more powerful, both as a tonic and antiseptic: the virtues reside more in the gummy than resinous extract; but is still more powerful having both dissolved; which warm water

effects, extracting also the oily portion; hence it is best prepared by infusion. This bark has been employed in similar views with the Peruvian bark. In *intermittents* it is not always superior; sometimes inferior. In *low fevers*, and those of the *putrid kind*, it has seemed more efficacious. In *head-aches*, attended with fever, but rising from the stomach; in *dysentery* and *dyspepsia*, it has been of great service.

From various experiments that have been made, the Angustura bark seems to claim the highest rank as an *antiseptic*.

MED. VIRT. *Tonic and antiseptic.*

PREP. *Extract.*

ANISI semen. *Pimpinella Anis Lin.* Anise, the seed [L. E.]

Anise is an annual umbelliferous plant, growing naturally in Crete, Syria, and other places of the East. It is cultivated in some parts of France, Germany, and Spain, and may be raised also in England. The seeds brought from Spain, which are smaller than the others, are preferred.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a degree of sweetness. Water extracts very little of their flavour; rectified spirit the whole.

These seeds are in the number of the four greater hot seeds: their principal use is in cold flatulent disorders, where tenacious phlegm abounds, and in the gripes to which young children are subject. Frederick Hoffman strongly recommends them in weakness of the stomach, diarrhœæ, and for strengthening the tone of the viscera in general; and thinks they well deserve the appellation given them by Helmont, *intestinorum solamen*. They are certainly carminative, and have been said to be expectorant, and to increase the quantity of nurses' milk; which does not seem improbable, as the odour ap-

pears, after taking it, in the milk itself.

The officinal preparations of these seeds are an *essential oil* [L. E.] and a *compound spirit* [L. E.]

MED. VIRT. *Aromatic—Tonic—Carminative.*

PREP. *Essential oil—Compound spirits, &c.*

ANTIMONIUM [L. E.] *Sulphuratum.* Antimony.

Antimony is a ponderous brittle mineral, composed of long shining streaks like needles, intermingled with a dark lead-coloured substance; of no manifest taste or smell. There are several mines of it in Germany, Hungary, and France, and some likewise in England. The English sort seems to be, of all the others, the least proper for medicinal use, as frequently containing a portion of lead. The substances found mixed with the foreign sorts are generally of the unsuitable stony kind, from which the antimony is melted out in vessels, whose bottom is perforated with small holes, and received in conical moulds. In these, the lighter and more drossy matter arises to the surface, while the more pure and ponderous subsides to the bottom. Hence the upper broad part of the loaves is considerably less pure than the lower.

The goodness of antimony is judged of from its weight; from the loaves not being spongy; from the largeness of the striæ; and from the antimony totally evaporating in a strong fire.

Antimony was employed by the ancients in collyria against inflammations of the eyes; and for staining the eyebrows black. Its internal use does not seem to have been established till towards the end of the fifteenth century; and, even at that time, it was by many looked upon as poisonous. But experience has now fully evinced,

that pure antimony, in its crude state, has no noxious quality; that some of the preparations of it are medicines of great efficacy; and that though many of them are most violently emetic and cathartic, yet even these, by a slight alteration or addition, lose their virulence, and become mild in their operation.

This mineral appears, from chemical experiments, to consist of a metal, united with common sulphur, and separable in its metallic form by the same means whereby other metallic bodies are extracted from their ores.

The pure metal operates, in a very minute dose, with extreme vehemence, as a purgative and emetic; when combined with sulphur, as in the crude mineral, its power is restrained; divested of the inflammable principle which it has in common with all perfectly metallic bodies, it becomes an indolent calx. There are a great variety of preparations of this mineral, which are formed in different ways.

1st. By simple pulverization. — 2d. By the action of heat and air. — 3d. By the action of fixed alkali. — 4th. By melting or de-flagrating it with nitre. — 5th. By the action of acids. — All these operations are performed upon antimony in its cruder state. — The following are formed from its regulus:

1st. By the action of heat and air. — 2d. By the action of nitre: — See BLACK'S Table of Antimonial Preparations. But few out of the great number are at present used in practice. The chief are *Pulvis antimonialis*; — *Antimonium tartarificatum*; — *Antimonium vitrificatum*; — *Antimonium preparatum*; — *Vinum antimonii*; — *Vinum ex antimonio tartarificato*. However, a great variety of others will be found in the third part of this

work, under the head of Antimonial Preparations. As for the cinabar of antimony, so called, it scarcely contains any of the metal-line part; it is chiefly a combination of quicksilver and sulphur.

But in the various preparations of antimony in use, the reguline part is either combined with an acid, or in a condition to be acted upon by acid in the stomach; the general effects of which are, producing a diaphoresis, nausea, full vomiting and purging, which perhaps may be the best obtained by the pulvis antimonii, or antimonium tartarificatum; the last of which has been said to be the most eligible, because the most certain; the action of the first depending upon the acid contained in the stomach: hence, according to the quantity and nature of acid, it may be rendered too violent in its operation, or too inactive.

Some have asserted, that antimonials are most beneficial in fevers, when they do not produce any sensible evacuation, as is said to be the case with James's powder. Some therefore prefer this in typhus, and tartarified antimony in synochus, in which there is appearance at first of more activity in the system, and more apparent cause for evacuation. In all cases, however, we should be cautious never to begin at first with full doses of either till we know how the stomach is likely to bear them; for different constitutions require different doses, and sometimes the same constitutions at different periods.

MED. VIRT. *Diaphoretic — cathartic — emetic — and caustic.*

PREP. *Antimony prepared — Tartarified antimony — Glass of antimony — Antimonial wine — Wine of tartarified antimony — Antimonial powder — and a number of other chemical preparations; but those spe-*

cified above are chiefly in use — Kermes mineral, and regulus of antimony.

ARABICUM GUMMI. See Gum. Arab.

ARGENTUM. Silver [*L. E.*] Abundance of virtues have been attributed to crude silver by the Arabians, and by some also of later times, but on very little foundation. This metal, taken in its crude state, has no effect in the body; combined with a small quantity of the nitrous acid, it proves a powerful, though not always a safe, hydragogue; with a larger, a strong caustic. The nitrous acid is the only one that perfectly dissolves this metal: on adding to this solution a minute portion of marine acid, or substances containing it, the liquor turns milky, and the silver falls to the bottom in form of a white calx: hence we are furnished with a method of discovering marine salt in waters, &c. See the preparations of silver in the third part.

There are two preparations of this metal in the Edinburgh Pharmacopœia — The causticum lunare, and the pilulæ lunares; and in the London one, argentum nitratum.

ARGENTUM VIVUM: *Hydragyrus; Mercurius.* Mercury or quicksilver [*L. E.*]

Mercury is an opaque silver-coloured mineral fluid; appearing to the eye like tin or lead when melted: it is heavier than any other fluid, and than most of the metallic bodies: it does not congeal in the greatest degree of natural cold hitherto known, though some chemists have produced this effect; in the fire it proves totally volatile. This mineral is either met with in its fluid form, in the earth, or extracted by art from certain ores. There are considerable mines of it in Hungary and Spain; and what

is employed in Britain comes chiefly from the former of these countries.

The use of mercury in medicine seems to have been little known before the fifteenth century. The ancients looked upon it as a corrosive poison, though, of itself, perfectly void of acrimony, taste, and smell. There are examples of its having been lodged for years in cavities both of bones and fleshy parts, without its having injured or affected them. Taken into the body in its crude state, and undivided, it passes through the intestines unchanged, and has not been found to produce any considerable effect. It has indeed been recommended in asthmas and disorders of the lungs; but the virtues attributed to it in these cases have not been warranted by experience.

Notwithstanding the mildness and inactivity of crude quicksilver undivided; when resolved by fire into the form of fume, or otherwise divided into very minute particles, and prevented from re-uniting by the interposition of proper substances, or combined with mineral acids, it has very powerful effects, affording the most violent poisons, and the most excellent remedies with which we are acquainted.

The mercurial preparations, either given internally or introduced into the habit by external application, seem to act generally as stimulants on the lymphatic system without producing heat, and increase the power of the circulation, through even the minutest, and most remote vessels of the body, and may be so managed as to promote excretion through all the emunctories. Hence their common use in inveterate chronic disorders proceeding from a thickness and sluggishness of the humours, and obstinate obstructions of the excretory glands; in scrophulous

and cutaneous diseases; and in the venereal lues. If their power be not restrained, by proper additions, to certain emunctories, they tend chiefly to affect the mouth; and, by an elective stimulus exercised on the salivary glands, occasion a plentiful evacuation from them.

The good effects derived from mercury depend upon its being a general stimulant of the habit, but more particularly of the lymphatic system, and a promoter of evacuations from all the excretories of the human machine; particularly increasing perspiration, the salival flux, the flow of urine, freeing the hepatic system, and other visceral glands, from obstruction, and quickening the action of their excretory vessels.

The salutary effects of mercurials do not depend on the quantity of sensible evacuation. This medicine may be gradually introduced into the habit, so as, without occasioning any remarkable discharge, to be productive of very happy effects. To answer this purpose, it should be given in very small doses, in conjunction with such substances as determine its action to the kidneys or the pores of the skin. By this method inveterate cutaneous and venereal distempers have been cured, without any other sensible excretion than a gentle increase of perspiration or urine. Where there are ulcers in any part, they discharge for some time a very fetid matter, the quantity of which becomes gradually less, and at length the ulcer kindly heals. If the mercury should at any time, from cold or the like, affect the mouth, it may be restrained by omitting a dose, and by warmth or suitable medicines promoting perspiration.

There are an immense variety of preparations of this mineral fluid, which may be seen in Dr. SCHWARTZ's Table, arranged accord-

ing to Dr. BERGMAN's Table of Elective Attractions, a great number of which will be found in the third part of this work, under the head of 'Preparations of Mercury.'

But there is little doubt of every purpose being answered by a very few; which may be divided, with a view both externally and internally, into two classes, the mild and the acrid. Almost every purpose to be answered by the former may be accomplished by the unguentum ex hydrargyro and the pilulæ hydrargyri of the London and Edinburgh Pharmacopœias; while most of the effects to be obtained by the latter, may be derived from the judicious use of calomel, hydrargyrus calcinatus, and hydrargyrus muriaticus.

The marks of pure mercury are, its globules not losing their spherical figure, when poured on wood; its not communicating a tinge to water, or sweetness to vinegar when rubbed with them; its evaporating entirely in an iron spoon when over the fire; and its having a shining appearance, without any pellicle on the surface. Mercury is best purified by distillation in an iron pot, with a long bent neck, and immersed in vinegar.

MED. VIRT. A general stimulant, and most powerful attenuant.

PREP. A number of chemical preparations, and an ingredient of many officinal compositions.

ARISTOLOCHIA. Birthwort. Three roots of this name are directed for medicinal use.

(1) *Aristolochia longa*, Lin. Long birthwort. This is a tubercous root, sometimes about the size of the finger, sometimes as thick as a man's arm, and a foot in length: it is nearly of an equal thickness all over, or a little thicker in the middle than at the ends: the outside is of a brownish colour; the inside yellowish.

(2) *Aristolochia rotunda*. Round birthwort. This has scarce any other visible difference from the foregoing than its roundish shape.

(3) **ARISTOLOCHIA TENUIS**, *Aristolochia clematis*, Lin. [E.] Slender birthwort. This is a long and slender root, rarely exceeding the thickness of a goose quill.

These roots are the produce of Spain, Italy, and the southern parts of France. Their smell is somewhat aromatic; their taste warm and bitterish. Authors in general represent them as extremely hot and pungent: some say they are the hottest of all the aromatic plants; but, as they are usually met with in the shops, they have no great pungency. The long and round sorts, on being first chewed, scarce discover any taste, but in a little time prove nauseously bitterish; the long somewhat the least so. The other sort instantly fills the mouth with an aromatic bitterness, which is not ungrateful. Their medical virtues are, to heat, stimulate, attenuate viscid phlegm, and promote the fluid secretions in general; they are principally celebrated in suppression of female evacuations. The dose in substance is from a scruple to two drams. The long sort is recommended externally for cleansing and drying wounds and ulcers, and in cutaneous diseases.

The whole of these are rejected from the London Pharmacopœia, and the *tenuis* alone retained in that of Edinburgh.

ARSENICUM. [E.] Arsenic.

Arsenic is contained, in greater or less quantity, in most kinds of ores, particularly in those of tin and bismuth, in the white pyrites, and in the mineral called *cobalt*; from which last, greatest part of the arsenic brought to us is extracted by a kind of sublimation. The arsenic arises at first in the form of greyish meal, which, more carefully reful-

limes, concretes into transparent masses, the *white* arsenic of the shops.

Arsenic, sublimed with one tenth its weight of sulphur, unites therewith into a bright yellow mass, in some degree transparent; the common *yellow* arsenic. On doubling the quantity of sulphur, the compound proves more opaque and compact; of a deep red colour, resembling that of cinnabar, but with this difference, that it loses some of its beauty upon being reduced into powder, while that of cinnabar is improved by these means: this is the common *red* arsenic. By varying the proportions of arsenic and sulphur, sublimates may be obtained of a great variety of shades of yellow and red.

Natural mixtures of arsenic and sulphur, resembling the foregoing preparations, are not unfrequently met with in the earth. The fossil red arsenic is the *sandaracha* of the Greeks, the *realgar* and *risgal* of the Arabians. Both the red and yellow, when of a smooth uniform texture, are named *zarnichs*; and when composed of small scales or leaves, *auripigmenta*, or *orpiments*: the last are the only substances to which the Greeks gave the name *ασπρηνξον*. That the *zarnichs* and *orpiments* really contain arsenic (contrary to the opinion of some writers), is evident from sundry experiments, whereby a perfect arsenic, and in notable quantity, is obtainable from them. The compilers of the preceding edition of the Edinburgh Dispensatory, therefore, very justly gave *sandaracha Græcorum* as a synonymon to *red arsenic*; and *auripigmentum* to the *yellow*.

The pure or white arsenic has a penetrating corrosive taste; and taken into the body proves a most violent poison. Besides the effects which it has in common with other

corrosives, it remarkably attenuates the coats of the stomach, occasions a swelling and sphacelation of the whole body, and a sudden putrefaction after death, particularly, as is said, of the genitals in men. Where the quantity is so very small as not to prove fatal, tremors, palfies, and lingering hectics succeed. The remedies recommended against this poison are, milk and oily liquors immediately and liberally drunk. Some recommend acids as an antidote, particularly vinegar; others a watery solution of calcareous or alkaline *hepar sulphuris*, which is found to combine with arsenic, and destroys most of its properties. It is said to be better for a little iron in the solution. The dry *hepar* may be also made into pills, and warm water drank after them. Notwithstanding the violent effects of arsenic, it has been employed both externally and internally in the cure of some diseases. Externally in cures of cancer, arsenic, in conjunction with the powder of the *ranunculus flammæus*, *cotula foetida*, and sulphur, intimately mixed together, has been applied, made into a paste with the white of an egg; and is said to be precisely the same remedy as that of the famous remedy of PLUNKET'S. Of four grains of the fine white transparent crystalline part of arsenic, dissolved in a pint of distilled water, a solution is formed, a table spoonful of which, with the same quantity of milk and syrup of white poppies, is to be taken every morning fasting, and nothing is to be tasted for an hour afterwards. After a continuance for eight days, the quantity is to be gradually increased and the doses more frequently repeated, till six table spoonfuls are taken by an adult in the course of the day.

Arsenic in substance, to the extent of one-eighth part of a grain

for a dose, combined with a little flower of sulphur, has been said to be given internally in some obstinate cutaneous diseases, with the utmost efficacy.

It has also been very successful in the cure of intermittents; and is supposed to have gone under the name of the *Arsenic Drop*, or the *tasteless Ague Drop*. A composition, made in the following form, may be administered with the greatest safety: sixty-four grains of arsenic reduced to a fine powder, and mixed with as much fixed alkaline salt, should be added to half a pound of distilled water, in a Florence flask, placed in a sand heat, and gently boiled till the arsenic is totally dissolved. When the solution is cold, half an ounce of compound spirit of lavender is to be added to it, and as much distilled water as to make the whole amount to a pound. This solution is to be given in the following manner: patients from two to four years of age are to take *from two to four drops*; from five to seven, *from five to seven drops*; from eight to twelve, *from seven to ten drops*; from thirteen to eighteen and upwards, may take *twelve drops* at a dose, in any proper vehicle, two or three times a day. — Mr. MORVEAU, it is said, has brought arsenic to the state of a true neutral salt, readily soluble in water, by mixing it with equal quantities of nitre, and then submitting them to a chemical process. Mr. MILNER, of Cambridge, has also produced an arsenical salt of the same nature, which has been employed with great success in that neighbourhood by several practitioners.

The red and yellow arsenics, both native and factitious, have little taste, and are much less virulent in their effects than the foregoing. Sulphur, which restrains the power of mercury and the antimonial metal, remarkably abates

the virulence of this poisonous mineral also. Such of these substances as participate more largely of sulphur, seem to be almost innocent: the factitious red arsenic, and the native orpiments, have been given to dogs in considerable quantity, without being productive of any apparent ill consequences.

MED. VIRT. *Corrosive, tonic, deobstruent.*

PREP. *Solution, arsenical salt, paste.*

ARTEMISIÆ folia: *Artemisia vulgaris*, Lin. Mugwort; the leaves [E.]

This plant grows plentifully in fields, hedges, and waste places, throughout England; and flowers in June. In appearance, it somewhat resembles the common wormwood: the difference most obvious to the eye is in the flowers, those of wormwood hanging downwards, while the flowers of mugwort stand erect.

The leaves of this plant have a light aromatic smell, and an herbaceous bitterish taste. They are principally celebrated as uterine and antihysterical: an infusion of them is sometimes drank, either alone, or in conjunction with other substances, in suppression of the menstrual evacuations. This medicine is certainly a very mild one, and considerably less hot than most others to which these virtues are attributed: in some parts of this kingdom, mugwort is of common use as a pot-herb.

MED. VIRT. *Antispasmodic.*

PREP. *Infusion.*

ARI radix: *arum maculatum*, Lin. Wake-robin; the root [L.E.]

This plant grows wild under hedges, and by the sides of banks, in most parts of England. It sends forth, in March, three or four triangular leaves, which are followed by a naked stalk, bearing a purplish pistil inclosed in a long sheath: this is succeeded, in July, by a

bunch of reddish berries. In some plants, the leaves are spotted with black, in others with white, and in others not spotted at all; the black spotted sort is supposed to be the most efficacious, and hence is expressly directed by the London college.

All the parts of arum, particularly the root, have an extremely pungent, acrimonious taste. If the root be but lightly chewed, it continues to burn and vellicate the tongue for some hours, occasioning at the same time a considerable thirst: these symptoms are alleviated by butter, milk, or oily liquors. Dried and kept for some time, it loses much of its acrimony, and becomes at length an almost insipid farinaceous substance.

The root is a powerful stimulant and attenuant. It is reckoned a medicine of great efficacy in some cachectic and chlorotic cases, in weakness of the stomach occasioned by a load of viscid phlegm, and in such disorders in general as proceed from a cold sluggish disposition of the solids and lentor of the fluids. It not only increases the digestive powers, but is also an universal stimulant, and has therefore been useful in intermittents. I have experienced great benefit from it in rheumatic pains, particularly those of the fixt kind, and which were seated deep. In these cases I have given from ten grains to a scruple of the fresh root twice or thrice a day, made into a bolus or emulsion with unctuous and mucilaginous substances, which cover its pungency, and prevent its making any painful impression on the tongue. It generally excited a slight tingling sensation through the whole habit, and, when the patient was kept warm in bed, produced a copious sweat.

An officinal preparation stands in Lewis's improved Dispensatory, in

which this root is an ingredient, in a compound *powder*; in which form, its virtues are very precarious. Some recommend a tincture of it drawn with wine; but neither wine, water, nor spirit, extract its virtues. Conserve of arum has a place in the London Dispensatory. The powder, however, of the fresh root is the most active preparation.

MED. VIRT. *Stimulant.*

PREP. *Conserve.*

ASAFÆTIDA. *Ferula Asa-fatida* Lin. Asafoetida [L. E.] the concrete juice of a large umbelliferous plant growing in Persia.

This juice exudes (from wounds made in the root of the plant) liquid, and white like milk: on being exposed to the air, it turns of a brownish colour, and gradually acquires different degrees of consistency. It is brought to us in large irregular masses, composed of various little shining lumps or grains, which are partly of a whitish colour, partly reddish, and partly of a violet hue. Those masses are accounted the best which are clear, of a pale reddish colour, and variegated with a great number of elegant white tears.

This drug has a strong fetid smell, somewhat like that of garlic; and a bitter, acrid, biting taste. It loses by age some of its smell and strength, a circumstance to be particularly regarded in its exhibition. It consists of about one-third part of pure resin, and two-thirds of gummy matter; the former soluble in rectified spirit, the latter in water. Proof spirit dissolves almost the whole into a turbid liquor; the tincture in rectified spirit is transparent.

Asafoetida is the strongest of the fetid gums, and of frequent use in all spasmodic and convulsive complaints, particularly hysteric; hypochondriac affections, and the

nervous asthma, and different kinds of nervous complaints; it may be administered in form of pills, watery solution or tincture. From one to two drams of the substance dissolved in from four to six ounces of distilled water have been often administered with success, by way of glyster in strong convulsions. The dose in substance may be from ten to twenty grains, or more, repeatedly. It is likewise of considerable efficacy in flatulent cholics; and for promoting all the fluid secretions in either sex. The ancients attributed to this medicine many other virtues, which are at present not expected from it.

This gummy resin is an ingredient in the officinal gum pills, compound powder of myrrh, fetid tincture, tincture of foot, fetid volatile spirit [L.] and antihysterical plaster [E.]

MED. VIRT. *Antispasmodic — Anthelmintic.*

PREPAR. *Concrete juice — tincture — an ingredient in the gum-pill.*

ASARI *folia, radix: Asari Europæi* Lin. Asarabacca: the roots and leaves [L. E.] The London college directs only the leaves; the Edinburgh both leaves and root.

Asarum is a very low evergreen plant, growing naturally in France, Italy, and other warm countries: the dried roots have been generally brought from the Levant; those of our own growth being supposed weaker.

Both the roots and leaves have a nauseous, bitter, acrimonious, hot taste; their smell is strong and not very disagreeable. Given in substance from half a dram to a dram, they evacuate powerfully both upwards and downwards. It is said, that tinctures made in spirituous menstrua, possess both the emetic and cathartic virtues of the plant: that the extract obtained by inspissating

these tinctures, acts only by vomit, and with great mildness; that an infusion in water proves cathartic, rarely emetic; and that aqueous decoctions made by long boiling, and the watery extract, have no purgative or emetic quality, but prove notable diaphoretics, diuretics, and emmenagogues.

The principal use of this plant, among us, is as a sternutatory. The root of asarum is perhaps the strongest of all the vegetable errhines, white hellebore itself not excepted. Snuffed up the nose, in the quantity of a grain or two, it occasions a large evacuation of mucus, and raises a plentiful spitting. The leaves are considerably milder, and may be used to the quantity of three, four, or five grains. Geoffroy relates, that, after snuffing up a dose of this errhine at night, he has frequently observed the discharge from the nose to continue for three days together; and that he has known a paralysis of the mouth and tongue cured by one dose. He recommends this medicine in stubborn disorders of the head, proceeding from viscid tenacious matter, in palsies, and in soporific distempers. The leaves are an ingredient in the *pulvis sternutatorius*, or *pulvis asari comp.* of the London Pharmacopœia.

MED. VIRT. *Errhine — cathartic — emetic.*

PREPAR. *Pulvis asari comp.*

ASPARAGI *radix: Asparagi sativi* C. B. *Asparagi officinalis* Lin. Asparagus; the root.

This plant is cultivated in gardens for culinary use. The roots have a bitterish mucilaginous taste, inclining to sweetness; the fruit has much the same kind of taste; the young shoots are more agreeable than either. Asparagus promotes appetite, but affords little nourish-

ment. It gives a strong ill smell to the urine in a little time after eating it, and, for this reason, chiefly, is supposed to be diuretic; it is likewise esteemed aperient and obstruent. The root is one of the five called opening roots. Some suppose the shoots to be most efficacious; others the root; and others the bark of the root. Stahl is of opinion, that none of them have any great share of the virtues usually ascribed to them. Asparagus appears from experience to contribute very little either to the exciting of urine when suppressed, or the increasing of its discharge; and, in cases where aperient medicines generally do service, this has little or no effect.

MED. VIRT. Supposed *diuretic*, but uncertain.

ATRIPLICIS FÆTIDÆ *herba*: *Chenopodii Vulvarie* Lin. Stinking orach, or arach. E.

This is a low plant, sprinkled all over with a kind of whitish clammy meal; it grows about dung-hills, and other waste places. The leaves have a strong fetid smell, with which the hand, by a light touch, becomes so impregnated as not to be easily freed from it. Its smell has gained it the character of an excellent antihysterical; and this is the only use to which it is applied. Tournefort recommends a spirituous tincture, others a decoction in water, and others a conserve of the leaves, as of wonderful efficacy in uterine disorders. Dr. Cullen is of opinion, from its remarkable foetor, it may be a powerful antispasmodic. It has in Scotland been frequently employed with great advantage.—The best mode of using it is in its recent state, in form of a conserve, as in its dry state it loses all its qualities.

MED. VIRT. *Antispasmodic*.

PREPAR. *Conserve*.

AVENA SATIVA Lin. [L. E.]
Oats.

This grain is an article rather of food than of medicine. It is sufficiently nutritive and easy of digestion. The Gruels made from it have likewise a kind of soft mucilaginous quality; by which they obtund acrimonious humours, and prove useful in inflammatory disorders, coughs, hoarseness, roughness, and exulcerations of the fauces.

MED. VIRT. *Emollient*.

PREPAR. *Decoction*.

AURANTIORUM HISPALENSIUM *succus, cortex, flos, & folium*: *Citrus Aurantium*. Bn. Seville oranges; the leaf, the juice, yellow rind, and flowers of the tree. [L. E.]

The orange is a beautiful evergreen tree, or rather shrub, bearing flowers and fruits all the year; it is a native of the warmer climates, and does not well bear the winters of this.

The flowers are highly odiferous, and have been, for some time past, of great esteem as a perfume; their taste is somewhat warm, accompanied with a degree of bitterness. They yield their flavour by infusion to rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and, on evaporating the decoction, remains entire in the extract. There is a water distilled from its flowers, called by foreign writers *aqua naphæ*. An oil distilled from these flowers is brought from Italy under the name of *oleum* or *essentia neroli*.

The flowers, and also the leaves of the orange tree, have been said to afford efficacious remedies in convulsive and epileptic cases, but experience has by no means confirmed the validity of such assertions; yet still the leaves deserve some attention, as three drachms,

taken three times a day, has prevented the return of epileptic paroxysms, for some months, which used to come on weekly.

The outer yellow rind of the fruit is a grateful aromatic bitter, and, in cold phlegmatic constitutions, proves an excellent *stomachic* and *carminative*, *promoting appetite, warming the habit, and strengthening the tone of the viscera*. Dr. Cullen thinks it may be capable of restoring the tone of the stomach, when it has been much impaired, but doubts much its power in moderating or restraining uterine hæmorrhagy. He thinks also it might be beneficial in intermittents, in expediting their cure. Orange peel appears to be very considerably warmer than that of lemons, and to abound more with essential oil: to this circumstance therefore due regard ought to be had in the use of these medicines. The flavour of the former is likewise supposed to be less perishable than that of the latter: hence they employ orange peel in the spirituous bitter tincture, which is designed for keeping, whilst, in the bitter watery-infusion, lemon peel is preferred.

MED. VIRT. *Stimulant — Stomachic—Cordial.*

PREPAR. *Syrup—Conserve—Spirit—Tincture.*

The juice of oranges is a grateful acid liquor, of considerable use in *febrile or inflammatory distempers, for allaying heat, abating exorbitant commotions of the blood, quenching thirst, and promoting the salutary excretions*: it is likewise of great use in sea scurvy; it also, in a dilute and pure state, excites appetite and promotes digestion.

MED. VIRT. *Cooling—Antiseptic.*

PREPAR. *An ingredient in the Succus cochleariæ compositus.*

AURANTIA CURASSAVENSIA. Curassao oranges. [E.]

These are the small young fruit

of the Seville orange dried. They appear very well adapted to give relief in stomach complaints, being moderately warm bitterish aromatics, of a flavour sufficiently agreeable. They contain more of the bitter than the orange peel, though not so much of the aromatic; on that account should not therefore be neglected.

MED. VIRT. *Stomachic—Tonic.*

AURUM. Gold.

This metal was introduced into medicine by the Arabians, who esteemed it one of the greatest cordials and comforters of the nerves. From them Europe received it, without any diminution of its character. In foreign Pharmacopœias it is still retained, and even mixed with the ingredients from which simple waters are to be distilled. But no one, it is presumed, at this time, expects any singular virtues from it, since it certainly is not alterable in the human body. Mr. Geoffroy, though unwilling to reject it from the cordial preparations, honestly acknowledges, that he has no other reason for retaining it, than complaisance to the Arabian schools. The chemists have endeavoured, by many elaborate processes, to extract what they call a sulphur or anima of gold: but no method is as yet known of separating the component parts of this metal: all the tinctures of it and aurum potable, which have hitherto appeared, are real solutions of it in aqua regia, diluted with spirit of wine or other liquors, and prove injurious to the body rather than beneficial. The aurum fulminans has been however recommended as a remedy in some convulsive diseases, particularly in the chorea Sancti Viti; and has a place given to it in some of the foreign Pharmacopœias.

AXUNGIA. Fat. [L. E.]

A great variety of fats were in-

roduced into medicine by the Arabians, and recommended as possessing distinct virtues. Experience, however, does not countenance these different virtues ascribed to different fats. They have all one common emollient quality, relax the part to which they are applied, and prevent perspiration: these effects, with the consequences of them, may be expected in a greater or less degree from fats of every kind. The London college has therefore retained only two fats, of different consistencies, for different mixtures, viz. hog's-lard and mutton suet. These are certainly sufficient for answering all the intentions for which substances of this kind are employed.

MED. VIRT. *Emollient.*

BALSAMITÆ MARIS folia :
Tanacetum Balsamitæ Lin. Costmary; the leaves.

This was formerly a very common garden plant, and frequently used both for culinary and medicinal purposes; but is at present very little regarded for either; though it should seem, from its sensible qualities, to be equal or superior, as a medicine, to some aromatic herbs which practice has retained. The leaves have a bitterish, warm, aromatic taste; and a very pleasant smell, approaching to that of mint, or a mixture of mint and maudlin. Water elevates their flavour in distillation; and rectified spirit extracts it by infusion.

MED. VIRT. *Aromatic—Antihysteric.*

BALSAMUM COPAIBA [L. E.] *Copaifera officinalis* Lin.—Balsam of copaiba: a liquid resinous juice, flowing from incisions made in the trunk of a large tree which grows in the Spanish West Indies, and some part of the continent of South America.

This juice is clear and transparent, of a whitish or pale yellowish

colour, an agreeable smell, and a bitterish pungent taste. It is usually about the consistence of oil, or a little thicker: long kept, it becomes nearly as thick as honey, retaining its clearness; but has not been observed to grow dry or solid, as most of the other resinous juices do. We sometimes meet with a thick sort of balsam of copaiba, which is not at all transparent, or much less so than the foregoing, and generally has a portion of turbid watery liquor at the bottom. This sort is probably either adulterated by the mixture of other substances, or has been extracted by coction from the bark and branches of the tree; its smell and taste are much less pleasant than those of the genuine balsam.

Pure balsam of copaiba dissolves entirely in rectified spirit, especially if the menstruum be previously alkalized: the solution has a very fragrant smell. Distilled with water, it yields a large quantity of a limpid essential oil; and, in a strong heat, without addition, a blue oil.

The balsam of copaiba is an useful corroborating detergent medicine, accompanied with a degree of irritation. It strengthens the nervous system, tends to loosen the belly, in large doses proves purgative, promotes urine, and cleanses and heals exulcerations in the urinary passage, which it is supposed to perform more effectually than any of the other balsams. FULLER observes, that it gives the urine an intensely bitter taste, but not a violet smell as the turpentine do.

This balsam has been principally celebrated in *gleets* and the *fluor albus*, and, externally, as a *vulnerary*. The author abovementioned recommends it likewise in *dysenteries*, in *scorbutic cachexies*, in *diseases of the breast and lungs*, and in an *acrimonious or putrescent state of the juices*: he says, he has known very dan-

gerous coughs, which manifestly threatened a consumption, cured by the use of this balsam alone; and that, notwithstanding its being hot and bitter, it has good effects even in hectic cases.

The dose of this medicine rarely exceeds twenty or thirty drops, though some direct sixty or more. It may be conveniently taken in the form of an *elæosaccharum*; or in that of an emulsion, into which it may be reduced by triturating it with almonds, or rather with a thick mucilage of gum arabic, till they are well incorporated, and then gradually adding a proper quantity of water.

Notwithstanding what has been said with respect to the efficacy of this balsam, it has been considered by modern physicians to be hurtful from its stimulus in cases of internal ulcerations, dysenteries, ulcers of the lungs, and other parts; also in hectic fevers, phthical affections, bloody urine, and dysury arising from an acrimony of the humours: though in some cases of hæmorrhoids it has been given with success, in doses of from 20 to 40 drops mixed with sugar, and given two or three times a day.

MED. VIRT. *Stimulant* — *Diuretic*.

BALSAMUM GILEADENSE [E.] *Balm of Gilead.*

This balsam is the product of the *Amyris Gileadensis*; is a native of Abyssinia, growing among the myrrh trees behind Azab.

It has been received in the different Pharmacopœias under the names of *Balsam. de Mecca*—*Opobalsamum*—*Balsamum Verum*—and *Balsamum Gileadense*. It issues spontaneously from the bark of the tree, but is more commonly obtained by incisions; the *Xylobalsamum* is obtained from the wood, and the *Car-pobalsamum* from the fruit. The balsam now imported into Europe

is said to be principally collected between Mecca and Medina.

The mode of collecting this balsam is very tedious and troublesome, so that genuine balsam is very rarely exported in a commercial way. The balsam, according to ALPINUS, is first turbid and white; of a very strong pungent smell, like turpentine, but much sweeter and more fragrant; and of a bitter, acrid, astringent taste: on being kept for some time, it becomes thin, limpid, light, of a greenish hue; and then of a gold yellow; after which it grows thick like turpentine, and loses much of its fragrance. This balsam, extravagant as are the encomiums bestowed upon it by the eastern nations, by the European physicians is considered as not essentially different from other resinous fluids or turpentine, and that every purpose might be as fully answered by Canada or Copaiva balsam. In Turkey it is not only in high esteem as a medicine, but also as an odoriferous unguent and cosmetic.

BALSAMUM PERUVIANUM [L. E.] *Myroxylon Peruiferum*, Lin. Supplem. Plantar. Balsam of Peru.

The common Peruvian balsam is said to be extracted, by coction in water, from an odoriferous shrub growing in Peru, and the warmer parts of America. This balsam, as brought to us, is nearly of the consistence of thin honey, of a reddish brown colour, inclining to black, an agreeable aromatic smell, and a very hot biting taste. Distilled with water, it yields a small quantity of a fragrant essential oil of a reddish colour; and, in a strong fire, without addition, a yellowish red oil.

Balsam of Peru is a very warm aromatic medicine, considerably hotter and more acrid than copaiba. Its principal effects are, to warm the habit, to strengthen the ner-

vous system, and attenuate viscid humours. Hence its use in some kinds of *asthma*, *gonorrhœas*, *dysenteries*, *suppressions of the uterine discharges*, and other disorders proceeding from a debility of the solids, or a sluggishness and inactivity of the juices. It is also employed externally, for *cleansing and healing wounds and ulcers*; and sometimes against *palsies and rheumatic pains*. Sydenham speaks of it as a remedy for the *colica Pictonum*; which may be readily admitted, as its laxative qualities are analogous to what we know of turpentine and balsam of copaiba. Its dose is from three to six grains, mixed into a draught with egg, sugar, or honey.

This balsam does not unite with water, milk, expressed oils, animal fats, or wax: it may be mingled in the cold with this last, as also with the sebaceous substance called expressed oil of mace; but if the mixture be afterwards liquefied by heat, the balsam separates and falls to the bottom. It may be mixed with water into the form of an emulsion after the same manner as the balsam of copaiba. Alkaline lixivia dissolve great part of it; and rectified spirit the whole.

There is another sort of balsam of Peru, of a *white* colour, and considerably more fragrant than the former. It is said to be the produce of the same plant which yields the common or *black* balsam; and to exude from incisions made in the trunk.

There is also another sort called the red or dry, but this is supposed only an inspissation of the white; but these are rarely brought to Britain, and seldom to be found in our shops.

MED. VIRT. *A warm Aromatic.*

PREPAR. *An ingredient in many tinctures and some ointments.*

BALSAMUM TOLUTANUM

[L. E.] *Toluifera Balsamum, Lin.*
Balsam of Tolu.

This flows from a tree of the pine kind, growing in Tolu, in the Spanish West-Indies, called by LINNÆUS *Toluifera Balsamum*; whence the balsam is brought to us in little gourd shells. It is of a yellowish brown colour, inclining to red; in consistence thick and tenacious: by age it grows hard and brittle, without suffering any great loss of its more valuable parts. The smell of this balsam is extremely fragrant, somewhat resembling that of lemons; its taste warm and sweetish, with little of the pungency, and nothing of the nauseous relish, which accompany the other balsams. It has the same general virtues with the foregoing; but is much milder, and for some purposes, particularly as a *corroborant in gleans and seminal weaknesses*, is supposed to be more efficacious. It possesses all the virtues of the other pectoral balsams, but is more mild.

MED. VIRT. *Aromatic — Corroborant.*

PREP. *Ingredient in several tinctures — Elixir — Pectoral pills.* — It forms a *Tincture and Syrup*.

BARDANÆ MAJORIS *radix et semen. Aretii Lappæ Lin.* Burdock; the roots and seeds. [L. E.]

This is a common plant about way-sides, sufficiently known from its scaly heads, or burs, which stick to the clothes. — The seeds have a bitterish subacid taste; they are recommended as *very efficacious diuretics*, given either in the form of emulsion, or in powder, to the quantity of a drachm. — Dr. Cullen thinks the diuretic power so small, as scarce worthy to be taken notice of. — The roots taste sweetish, with a slight austeriety and bitterness: they are esteemed *aperient, diuretic, and sudorific*; and said to act without irritation, so as to

be safely ventured upon in acute disorders. Decoctions of them have of late been used in *rheumatic, gouty, scorbutic, dropsical, nephritic,* and other disorders; and preferred by some to those of sarsaparilla.

MED. VIRT. *Aperient—Diuretic—Sudorific.*

PREPAR. *Decoction.*

BARILLA or SODA. *Natron impurum Lond. Natrum antiquorum. Lin. [L. E.]*

Is a saline and earthy concrete, artificially prepared by burning certain plants growing on the sea-coast. Its great constituent is the fossil alkali. It varies its character and goodness according to the places from whence it is brought, and the plants from whence it is procured, and perhaps from the mode of preparation. The most esteemed is that of Alicant, to which that of Carthage is much inferior. All the sorts contain, besides earth, the NATRON of the ancients, and of the present Pharmacopœias, for many years past usually called *fossil or mineral fixed alkali*; and most of them have a mixture of kali, and some neutral salt; sometimes sulphur and particles of iron. The more natron and the less of other materials that it contains, the more valuable it is for medical purposes.

Barilla should be chosen hard, dry, sonorous, with many foramina; of a grey colour, blackish grey, inclining to blue, mixed with small white particles, and larger ones blackish; discovering, when moistened with saliva, a violet smell, somewhat urinous, and volatile.

That which is moist, fat, mixed with hair or sand, of a blackish or whitish green, easily becoming moist in the air, and smelling when moistened, muddy and fetid; without holes; of a disagreeable or saltish taste, but not lixivious, and readily effervescing with acids, is to be rejected.

As the fossil alkali separated from its impurities is the part chiefly used in medicine, its medical virtues will fall under *sal alkalinus salis marini*, or soda, which see.

BARYTES, called also *Barytes ærata*; *Terra ponderosa*; Ponderous Earth. [E.]

This is found chiefly in the vicinity of mines or veins of metals. Its species is *ærated ponderous spar*, or vitriolated ponderous earth, either in the form of a transparent spar, or an opaque earth, of a white grey or fawn colour; frequently of no regular figure, but often in a peculiar form of a number of small convex lenses, set edge-ways in the ground.—We are indebted to the celebrated chemists Gahn—Scheele—and Bergman, for our knowledge of this earth.

The solution of *ærated barytes* in spirit of salt has been found capable of producing powerful effects on the human system. It proves efficacious in some scrophulous complaints: in cases of swelled glands, foul ulcers, enlarged joints, cutaneous eruptions, and general cachexy, it has given singular relief, either alone, or joined with mercurials, antimonials, and the bark.—It appears in some instances to increase the cuticular discharge; in most it proves very diuretic, and almost always improves the appetite, and general habit of the body.—On trial, few stomachs could bear more than from six to ten drops of a saturated solution, nor did the continued use of the medicine reconcile the stomach to it, but rather the contrary.—Sometimes it produced a vertigo, which probably arose from its nauseating quality. Dr. Crawford, who had been in habits of using this medicine a good deal, was of opinion that this solution, when injudiciously managed, was capable of producing deleterious effects; by disordering

the nervous system, and bringing on violent vomiting and purging. From some experiments made upon dogs, it appears that a large dose would prove fatal.

MED. VIRT. *Deobstruent—Diuretic.*

PREPAR. *Solution in muriatic acid.*

BECABUNGA. *Veronica Becabunga* Lin. Brooklime; the leaves, the herb. [L.]

This is a low plant, common in little rivulets and ditches of standing water: the leaves remain all the winter, but are in greatest perfection in the spring. Their prevailing taste is an herbaceous one, accompanied with a very light bitterness.

Becabunga has been supposed to have a saponaceous detergent virtue, and to *attenuate viscid humours without pungency or irritation*: hence it has been directed in the species of *scorvy* called *hot*, where the *cochleariæ*, and other acrid antiscorbutics, were supposed to be less proper. It is now used only in composition with those plants, as in the *sps. cochl. compos.* but does not perhaps add much to their efficacy. If any virtue be expected from becabunga, it should be used as food.

MED. VIRT. *Attenuating and Antiscorbutic.*

BELLIS MINOR. *Bellis perennis* Lin. Common daisy; the leaves.

This is common almost every where, and flowers early in the spring. — The leaves have a subtile subacid taste, and are recommended as *vulneraries*, and in *asthma*s and *hectic fevers*, and such disorders as are occasioned by drinking cold liquors when the body has been much heated. Ludovici prefers the *bellis minor* to the plants commonly used as antiscorbutics, and resolvents of coagulated blood in hypochondriacal disorders.

MED. VIRT. *Assenuant.*

BENZOINUM. Benzoe. [L. E.] *Styrax Benzoe*: *Acta Philosophica Londinensia*; *Terminalia Benzoin*. Lin. Benzoin; — the resin. — The tree from which this is acquired grows chiefly in the island of Sumatra.

Benzoin is a concrete resinous juice, obtained from a large tree growing naturally in both the Indies, and hardy enough to bear the winters of our own climate. The resin is brought from the East Indies only; in large masses composed of white and light brown pieces, or yellowish specks, breaking very easily betwixt the hands: such as is whitest, and free from impurities, is most esteemed.

This resin has very little taste, impressing only a light sweetness on the tongue; its smell is extremely fragrant and agreeable, especially when heated. Committed to the fire in proper vessels, it yields a considerable quantity of a white saline concrete, called *flowers*, of an acidulous taste and grateful odour, soluble in rectified spirit, and by the assistance of heat in water.

The principal use of benzoin is in perfumes, and as a cosmetic: it is rarely met with in extemporaneous prescription, and enters in substance only one officinal composition, the *Tinct. Benzoes compos.* designed chiefly for external use. It should nevertheless seem applicable to other purposes, and to have no bad title to the virtues of storax and balsam of Tolu, at least in a subordinate degree. The *flowers* are recommended in disorders of the breast; and in this intention they are made an ingredient in the *Tinct. Opii Camphor.* and some other compositions. [L.]

MED. VIRT. *Pectoral.*

PREPAR. *Camphorated Tincture of Opium—Compound Tincture of Benzoin.*

BERBERIS cortex et fructus: *Berberis vulg. Lin.* Barberry; the bark and fruit.

The barberry is a small tree, or rather a large bush, covered with an ash-coloured bark, under which is contained another of a deep-yellow: the berries are of an elegant red colour, and contain each two hard brown seeds. It grows wild on chalky hills in several parts of England; and is frequently planted in hedges and in gardens.

The outward bark of the branches, and the leaves, have an astringent acid taste; the inner yellow bark a bitter one: this latter is said to be serviceable in the jaundice; and by some, to be an useful purgative.

The berries, which to the taste are gratefully acid, and moderately restraining, have been given with success in *bilious fluxes*, and *diseases proceeding from heat, acrimony, or thinness of the juices*. Among the Egyptians, barberries are employed in *fluxes*, and in *malignant fevers*, for *abating heat, quenching thirst, raising the strength, and preventing putrefaction*: the fruit is macerated for a day and night, in about twelve times its quantity of water, with the addition of a little fennel seed, or the like, to prevent offence to the stomach; the liquor strained off, and sweetened with sugar, or syrup of citrons, is given the patient liberally to drink. Prosper Alpinus (from whose treatise *De Medicina Egyptiorum* this account is extracted) informs us, that he took this medicine himself, with happy success, in a pestilential fever, accompanied with an immoderate bilious diarrhoea. It is now however almost totally rejected, though in feverish complaints, particularly in those which have a putrid tendency, the jelly of the barberry fruit is very pleasant, nor would it be totally useless. A jelly of the

fruit is directed by the Edinburgh college as an officinal.

MED. VIRT. *Astringent — Anti-septic.*

PREPAR. *Jelly.*

BETÆ folia, Betæ vulgaris Lin.

White and red beets; and the turnep-rooted red beet, or beet-rave.

These plants are cultivated in gardens, chiefly for culinary use. The eye distinguishes little other difference betwixt them, than that expressed in their titles. Decoctions of beets *gently loosen the belly*; hence they have been ranked among the emollient herbs: the plants remaining after the boiling are supposed to have rather a contrary effect. They afford little nourishment, and are said by some to be prejudicial to the stomach. The juice expressed from the roots is a powerful errhine. But from the trials made by Dr. Cullen, it gave no durable or large evacuation.

MED. VIRT. *Cathartic—and Errhine.*

BETONICÆ folia: Betonica officinalis Lin. Common or wood-betony; the leaves.

Betony is a low plant, growing in woods and shady places, in several parts of England; the flowers come forth in June and July; they are of a purplish colour, and stand in spikes on the tops of the stalks. The leaves and flowers have an herbaceous, roughish, somewhat bitterish taste, accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the materia medica, who have not been wanting to attribute to it abundance of good qualities. Experience does not discover any other virtue in betony, than that of a *mild corroborant*; as such, an infusion or light decoction of it may be drank as tea, or a saturated tincture in rectified spirit given in

suitable doses, in *laxity and debility of the viscera*, and *disorders proceeding from them*. The powder of the leaves, snuffed up the nose, *provokes sneezing*; and hence betony is sometimes made an ingredient in sternutatory powders: this effect does not seem to be owing, as is generally supposed, to any peculiar stimulating quality in the herb, but to the rough hairs with which the leaves are covered. The roots of this plant differ greatly in quality from the other parts: their taste is bitter and very nauseous: taken in a small dose, they *vomit and purge violently*, and are supposed to have somewhat in common with the roots of hellebore. It is pretty singular, if true, that betony affects those who gather any considerable quantity of it, with a disorder resembling drunkenness; as affirmed by Simon Paulli and Bartholinus.

From the sensible qualities of this plant, though it is not much used in medicine, it does not appear unworthy of farther attention.

MED. VIRT. *Corroborant.*

BETULÆ cortex et lacryma: *Betula C. B. Betulae albæ Lin.* The birch tree; the bark and sap.

This tree grows wild in moist woods: its bark consists of a thick brittle substance of a brownish red colour; and of several very thin, smooth, white, transparent membranes. These membranes are highly inflammable, and appear to abound with resinous matter, though scarcely of any particular smell or taste: the thick brittle part is less resinous, and in taste roughish; of the medical virtues of either, little or nothing is known with certainty.

Upon deeply wounding or boring the trunk of the tree in the beginning of spring, a sweetish juice issues forth, sometimes, as is said, in so large quantity, as to

equal in weight the whole tree and root: one branch will bleed a gallon or more in a day. This juice is chiefly recommended in *scorbutic disorders*, and *other foulnesses of the blood*; its most sensible effect is to promote the urinary discharge.

MED. VIRT. *Antiscorbutic — Diuretic.*

BEZOAR lapis—*Calculus Capræ bezoardicæ*. Bezoar stone.

The bezoar stone is a calculous concretion found in the stomach of certain animals which are said to be of the goat kind. It is composed of concentrical coats surrounding one another, with a little cavity in the middle, containing a bit of wood, straw, hair, or the like substances.

The shops distinguish two sorts of bezoar, one brought from Persia and the East-Indies, the other from the Spanish West-Indies. The former or better sort, called oriental bezoar, is of a shining dark green or olive colour, and an even smooth surface; on removing the outward coat, that which lies underneath it appears likewise smooth and shining. The occidental has a rough surface, and less of a green colour than the foregoing: it is likewise much heavier, more brittle, and of a looser texture; the coats are thicker, and on breaking exhibit a number of striæ curiously interwoven. The oriental is generally less than a walnut; the occidental for the most part larger, and sometimes as big as a goose egg. The former is universally more esteemed. Many virtues have been formerly ascribed to the bezoar: but it is now found to be only a mere absorbent, and of so very inferior an order, that it is never used for that purpose.

BISMUTHUM. Visnuthum nativum. Bismuth.

Bismuth is a ponderous brittle metal, resembling in appearance

the antimonial regulus and zinc, but greatly differing from them in quality. It dissolves with vehemence in the nitrous acid, which only corrodes the regulus of antimony; and is scarce at all soluble in the marine acid which acts strongly on zinc. A calx and flowers of this semimetal have been recommended as similar in virtue to certain antimonial preparations: but are at present of no other use than as a pigment or cosmetic.

BISTORTÆ *radix: Polygoni Bistortæ Lin.* Bistort, or snakeweed; the root [L. E.]

This plant grows wild in moist meadows, in several parts of England; but is not very common about London. The root is about the thickness of the little finger, of a blackish brown colour on the outside, and reddish within: it is writhed or bent vermicularly (whence the name of the plant) with a joint at each bending, and full of bushy fibres; the root of the species here meant has, for the most part, only one or two bendings; others have three or more.

All the parts of bistort have a rough austere taste, particularly the root, which is one of the strongest of the vegetable astringents. It is employed in *all kinds of immoderate hæmorrhages and other fluxes*, both internally and externally, where astringency is the only indication. It is certainly a very powerful styptic, and is to be looked on simply as such; to the sudorific, antipestilential, and other like virtues attributed to it, it has no other claim, than in consequence of its astringency, and of the antiseptic power which it has in common with other vegetable styptics. It has frequently been employed in large doses in intermittents, both by itself and with gentian: it has been given to the quantity of three

drams in a day; though its common dose is from 20 to 60 grains.

MED. VIRT. *Powerfully astringent.*

BOLI. Boles are viscid earths, less coherent and more friable than clay, more readily uniting with water, and more freely subsiding from it. They are soft and unctuous to the touch, adhere to the tongue, and by degrees melt in the mouth, impressing a light sense of astringency. A great variety of these kinds of earths has been introduced into medicine; the principal of which are the following:

(1) *Bolus Armena.* Armenian bole, or bole Armenic. Pure Armenian bole is of a bright red colour, with a tinge of yellow: it is one of the hardest and most compact of the bodies of this class, and not smooth or glossy like the others, but generally of a rough dusty surface. It raises no effervescence with acids.

(2) *BOLUS GALLICA.* French bole. [L.] The common French bole is of a pale red colour, variegated with irregular specks or veins of white and yellow. It is much softer than the foregoing; and slightly effervesces with acids.

(3) *BOLUS BLESENSIS.* Bole of Blois. This is a yellow bole, remarkably lighter than the former, and than most of the other yellow earths. It effervesces strongly with acids.

(4) *Bolus Bobemica.* Bohemian bole. This is of a yellow colour, with a cast of red, generally of a flaxy texture. It is not acted on by acids.

(5) *Terra Lemnia.* Lemnian earth. This is a pale red earth; slightly effervescing with acids.

(6) *Terra Silesiaca.* Silesian earth is of a brownish yellow colour: acids have no sensible effect upon it. These and other earths, made into little masses, and

stamped with certain impressions, are called *terre sigillatæ*.

These earths have been recommended as astringent, sudorific, and alexipharmac; in diarrhœas, dysenteries, hæmorrhages, and in malignant and pestilential distempers. In intestinal fluxes, and complaints in the first passages from thin acrimonious humours, they may, doubtless, be of some use. However great and numerous may be the virtues formerly ascribed to them, they are certainly mere inert substances, and are not allowed to have medical properties of any consequence.

BONUS HENRICUS. *Chenopodium Boni Henrici* Lin. English herb mercury; the leaves [E.]

This herb is met with by road sides, and in uncultivated places. It is ranked among the emollient herbs, but rarely made use of in practice. The leaves are applied by the common people for healing slight wounds, cleansing old ulcers, and other purposes of that kind.

BORRAGINIS flores: *Boraginis officinalis* Lin. Borage; the flowers.

This is a rough plant, clothed with small prickly hairs: it grows wild in waste places, and upon old walls. An exhilarating virtue has been attributed to the flowers of borage, which are hence ranked among those called *cordial flowers*: but they appear to have very little claim to any virtue of this kind, and seem to be altogether insignificant.

BORAX. *Natron boracicum*. [L. E.] Tincar, or Borax.

This is a saline substance, brought from the East-Indies in great masses, composed partly of large crystals, but chiefly of smaller ones, partly white and partly green, joined together as it were by a greasy yellow substance, intermingled with sand, small stones, and other impurities. The purer

crystals, exposed to the fire, melt into a kind of glass, which is nevertheless dissoluble in water.

This salt, dissolved and crystallized, forms small transparent masses; the refiners have a method of shooting it into larger crystals; but these differ in several respects from the genuine salt, inasmuch that Cramer calls them not a purified, but adulterated borax. The origin of this salt is as yet unknown, and its composition is known only in part. Thus much experiments have clearly shown, that it consists of fixt mineral alkaline salt, in some degree neutralized by a peculiar acid.

Nor have the medical virtues of borax been sufficiently ascertained by experience. It is supposed to be, in doses of half a dram or two scruples, *diuretic, emmenagogue*, and a *promoter of delivery*. Mr. Bisset, in an essay on the medical constitution of Great Britain, recommends a solution of this salt in water as the most powerful dissolvent yet known of apthous crusts in the mouth and fauces of children. There are strong reasons to believe, that the virtues of borax are much greater than they are in general supposed to be.

For the acid of Borax, see **SAL SEDATIVUS**.

MED. VIRT. *Diuretic and Emmenagogue.*

BOTRYOS folia: *Chenopodii ambrosioidis folio sinuato* Tourn. *Atriplicis odoræ seu suaveolentis* Morisf. *Chenopodii Botryos* Lin. Jerusalem oak; the leaves.

This plant is cultivated in gardens. It has a strong, not disagreeable smell; and a warm somewhat pungent taste. It is recommended as a carminative pectoral. Infusions of it may be drank as tea; and in this form it has been recommended for chronic catarrh. But rectified spirit is said to be the best

menstruum for the active parts of both the seeds and leaves.

MED. VIRT. *Carminative—Peculiar.*

PREPAR. *Infusion.*

BRASSICA SATIVA: *Brassica Oleracea* Lin. White and red cabbages, coleworts, Savoy cabbages, and cauliflower.

These are cultivated in gardens rather for culinary than medicinal use. They are all supposed to be hard of digestion, to afford little nourishment, and to produce flatulencies; though probably on no very good foundation. They tend strongly to putrefaction, and run into this state sooner than almost any other vegetable; when putrefied, their smell is likewise the most offensive, greatly resembling that of putrefied animal substances. A decoction of them is said to *loosen the belly*. Of all these plants, cauliflower is reckoned the easiest of digestion. The white is the most fetid; and the red most emollient or laxative: a decoction of the latter is recommended for *softening acrimonious humours in some disorders of the breast, and in boarsenefs*.

Cabbage is well suited for the purpose of diet, both from its succulency, and the great quantity of saccharine matter it contains. It has also been used for medical purposes. The leaves bruised gently are often applied to parts previously blistered, with the effect of promoting a considerable discharge. They produce a watery discharge through the skin, when applied to the ancles, in anasarca; and in some instances have done it completely. They sometimes even have the effect of bringing on vesications.

If by proper art they are made to undergo an acescent fermentation, and can be made to remain in that state, they are a very effectual means both of obviating and cur-

ing the scurvy. Cabbage thrown into this state is called *saur kraut* or four crout.

MED. VIRT. *Refrigerant—Laxative—Antiscorbutic.*

PREPAR. *Sour-cROUT.*

BRYONIAE ALBÆ Lin. *radix*: White bryony, or wild vine; the roots [E.]

This is a rough plant, growing on dry banks under hedges, and climbing upon the bushes. The roots are large, sometimes as thick as a man's thigh; their smell, when fresh, is strong and disagreeable; the taste nauseously bitter, acrid, and biting: the juice is so sharp, as in a little time to excoriate the skin: in drying, they lose great part of their acrimony, and almost the whole of their scent.

Bryony root is a strong irritating cathartic; and, as such, has sometimes been successfully exhibited in *maniacal cases*, in *some kinds of dropxies*, and in *several chronic disorders*, where a quick solution of viscid juices, and a sudden stimulus on the solids, were required. An extract prepared by water acts more mildly, and with greater safety, than the root in substance; given from half a dram to a dram, it is said to prove a gentle purgative, and likewise to operate powerfully by urine.

Bryony root, applied externally, is said to be a powerful discutient. Though this is rejected by the present practice, yet from its active powers, which might be rendered less drastic, it merits some attention.

MED. VIRT. *Discutient, and strongly Cathartic.*

BUGLOSSI *radix, folia, flores*: *Anchusæ officinalis* Lin. Garden bugloss; the roots, leaves, and flowers.

This is a rough, hairy plant, resembling borage, but less prickly: a wild sort is commonly met with

in hedges and among corn, which differs from the garden sort only in being smaller. Bugloss has a slimy sweetish taste, accompanied with a kind of coolness: the roots are the most glutinous, and the flowers the least so. These qualities point out its use in *hot bilious or inflammatory distempers*, and a *thin acrimonious state of the fluids*. The flowers are one of the four called cordial flowers: the only quality they have that can entitle them to this appellation, is, that *they moderately cool and soften, without offending the palate or stomach*; and thus, in warm climates, or in hot diseases, may in some measure refresh the patient.

MED. VIRT. *Refrigerant—emollient.*

BURSÆ PASTORIS folia: *Thlaspi Bursa Lin.* Shepherd's purse; the leaves.

This plant is common in waste places; and is found in flower all the summer. Shepherd's purse has long been celebrated as an *astringent*, and strongly recommended in *diarrhæas, dysenteries, uterine fluors*, and in general in all diseases where astringents of any kind can avail. Some have esteemed it so powerful a styptic, as scarce to be safely administered internally. Others have thought it to be of a hot fiery nature, and supposed it to stop fluxes and hæmorrhages, by coagulating the juices like alcohol, and burning or searing the orifices of the vessels. The sensible qualities of shepherd's purse discover little foundation for either of these opinions; it has no perceptible heat, acrimony, pungency, and scarcely any astringency: the taste is almost merely herbaceous, so as sufficiently to warrant the epithet given this plant by Mr. Ray, *Fatuum*.

MED. VIRT. *Astringent*, but very doubtful.

BUXI lignum et folia: *Buxi*

sempervirentis Lin. The box-tree: the leaves and wood.

The box is a small tree, growing wild in some parts of Kent and Surry. The wood is of a yellow colour, more solid, compact, and ponderous than any other of the European woods. The leaves have a strong nauseous taste, and when fresh, a fetid smell: they are said to *purge violently*, in the dose of a dram. A decoction of the wood is recommended by some as powerfully *sudorific*, preferable even to guaiacum: but the taste readily discovers that it wants the qualities of that wood. The box-wood is now rejected from our Pharmacopœias; but from its active qualities, particularly the leaves, some writers recommended them to attention.

MED. VIRT. Of the leaves—*Purgative.*

CACAO Theobroma Cacao Lin. Chocolate nuts.

These are the fruit of an American tree resembling the almond. The principal use of these nuts is for the preparation of a substance of which the dietetic liquor chocolate is made. This is a mild, unctuous, nutritious fluid, capable of *softening acrimonious humours*, and of *great service in consumptive disorders*; especially if made with milk, and with only a small proportion of aromatics.

This substance is not always easily digested, but has sometimes occasioned inconveniences to the stomach, which may be obviated by very diligent trituration, uniting very intimately the farinaceous, and oily part, which renders it more easily digestible. The chocolate of London is esteemed by much the best, because the two parts are so very perfectly united, by making them pass between two cylinders rolling

one against the other, which has more power to form the intimate union, than by levigation, which was formerly practised.

MED. VIRT. *Analeptic.*

PREP. *Chocolate.*

CALAMINARIS LAPIS, *Zincum Calaminaris* [L. E.]. Calamy or calamine stone.

This mineral is found plentifully in England, Germany, and other countries, either in distinct mines, or intermingled with the ores of different metals. It is usually of a greyish, brownish, yellowish, or pale reddish colour; considerably hard, though not sufficiently so to strike fire with steel. It has been looked upon by some as a simple earth, by others as iron ore: later experiments have discovered it to be an ore of zinc. Calamine is generally roasted or calcined before it comes into the shops, in order to separate some sulphureous or arsenical matter which the crude mineral is supposed to contain, and to render it more easily reducible into a fine powder. In this state, it is employed in collyria against *defluxions of thin acrid humours upon the eyes; for drying up moist, running ulcers; and healing excoriations.*

MED. VIRT. *Desiccative and healing.*

PREP. An ingredient in *ceratum lap. calam. and collyria, &c.*

CALAMI AROMATICI *radix: Acori Calami* Lin. S. P. Sweet-scented flag; the roots [L. E.]

This flag resembles, as to its leaves, the common *iris*, but, in other respects differs greatly from it: the stalk grows at a little distance from the leaves; the lower half, up to where the flowers come forth, is roundish; the part above this, broad like the other leaves; the flowers are very small, whitish, and stand in a kind of head about the size of a finger. This plant grows

plentifully in rivulets and marshy places, about Norwich and other parts of this island; in the canals of Holland; in Switzerland; and in other countries of Europe. The shops have been usually supplied from the Levant with dried roots, which do not appear to be superior to those of our own growth.

The root of *acorus* is full of joints, crooked, somewhat flattened on the sides, internally of a white colour, and loose spongy texture: its smell is strong; the taste warm, acrid, bitterish, and aromatic; both the smell and taste are improved by exsiccation. This root is generally looked upon as a *carminative and stomachic medicine*, and as such is sometimes made use of in practice. It is also given in anorexia and *sen* agues. It is said by some to be superior in aromatic flavour to any other vegetable that is produced in these northern climates: but such as I have had an opportunity of examining, fell short, in this respect, of several of our common plants. It is, nevertheless, a sufficiently elegant aromatic. The fresh root, candied after the manner directed in our Dispensatory for candying *eryngo* root, is said to be employed at Constantinople as a preservative against epidemic diseases. The leaves of this plant have a sweet fragrant smell, more agreeable, though weaker, than that of the roots.

MED. VIRT. *Aromatic and stomachic.*

CALENDULÆ flores: *Calendula officinalis* Lin. Garden marigold; the flowers.

This herb is common in gardens, where it is found in flower greatest part of the summer. Marigold flowers are supposed to be aperient and attenuating; as also cardiac, alexipharmic, and sudorific. They are principally celebrated in uterine

obstructions, the jaundice, and for throwing out the small-pox. Their sensible qualities give little foundation for these virtues: they have scarcely any taste, and no considerable smell. The leaves of the plant discover a viscid sweetishness, accompanied with a more durable saponaceous pungency and warmth. However, they are now almost totally rejected, as they are not allowed to possess any material medical properties. If they have any at all, it is that of being very slightly sudorific.

CALX VIVA [L. E.] *Lapis calcareus purus, recens usus.* Quicklime. Quicklime is usually prepared among us, by calcining certain stones of the chalky kind. All chalks and marbles, and, in general, all the mineral earths that dissolve in acids, burn into quicklime; with this difference, that the more compact the stone, generally the stronger is the lime. In maritime countries, in defect of the proper stones, sea shells are made use of, which afford a calx agreeing in most respects with the stone limes.

All these limes are, when fresh burnt, highly acrimonious and corrosive. In this state they are employed in some external applications as a depilatory; for rendering sulphur soluble in water; and for increasing the power of fixt alkaline salts either for the purposes of a caustic, or to enable them more readily to dissolve oils for making soap. If the lime be exposed for a length of time to the air, it falls by degrees into a powder, and loses much of its acrimony.

Water, poured directly upon quicklime, takes up a considerable portion of it. The solution has a strong taste, somewhat styptic, drying the mouth, and accompanied with a kind of sweetishness. This liquor does not effervesce either with acids or alkalies, but is rendered by

the latter turbid and milky; it prevents the coagulation of milk, and hence is sometimes made use of along with milk distillate: agitated with expressed oils, it unites with them into a thick compound, recommended by Dr. Stare against burns and inflammations. Both the simple solution of the lime, and the solution impregnated with other materials, are directed as officinal, under the titles of simple and compound lime waters.

Lime water, drank to the quantity of a quarter of a pint, three or four times a day, and continued for a length of time, has been found serviceable in scrophulous cases, and other obstinate chronic disorders. It generally promotes urine, and not unfrequently the cuticular discharge: for the most part it binds the belly, and sometimes produces troublesome costiveness, unless this effect be occasionally provided against, by the interposition of proper medicines. It does service in debility and laxity of the viscera in general; in those of the uterine and seminal vessels it is particularly recommended. Care must be had not to use this medicine too liberally in hot bilious constitutions, or where the patient is much emaciated, or the appetite weak, or at the time of any critical or periodical evacuations. Its principal use is in cold, moist, stasial, and corpulent habits.

It has been used as a lithontriptic; and though incapable of dissolving human calculi, yet under its use patients afflicted with the stone have experienced great relief. In the form of glisters it is very effectual in killing and bringing away the ascarides. It has been given in repeated draughts from six ounces up to a pint or more in a day, with or without a fourth or fifth part of milk, against leucorrhœas, diabetes, and acidities in the primæ viæ. It is sometimes applied as a

wash for foul ulcers, by injection for the relief of *fluor albus*, and other preternatural discharges.

MED. VIRT. A powerful corrosive; alterant and absorbent.

PREP. Medicated water.

CAMPHORA [L. E.] *Ex Lauro camphora* Lin. Camphor is a solid concrete, extracted from the wood and roots of a tree growing in Japan, Sumatra, and other parts of the East Indies, by a process similar to that by which essential oils are obtained. As it first sublimes from the wood, it appears brownish, composed of semipellucid grains mixed with dirt: in this state it is exported by the Dutch, and purified by a second sublimation; after which, it is reduced into loaves (in which it is brought to us) probably by fusion in close vessels; for it does not assume this form in sublimation. It is also produced by several trees in the East Indies, in a more fluid state, and then styled the oil of camphor; and also this concrete is produced, in small quantities, from other vegetables by distillation.

Pure camphor is very white, pellucid, somewhat unctuous to the touch; of a bitterish, aromatic, acrid taste, yet accompanied with a sense of coolness; of a very fragrant smell, somewhat like that of rosemary, but much stronger. It is totally volatile, and inflammable; soluble in vinous spirits, oils, and the mineral acids; not in water, alkaline liquors, or the acids of the vegetable kingdom. This concrete is esteemed one of the most efficacious *diaphoretics*; and has long been celebrated in fevers, malignant and epidemical distempers. In deliria, where opiates fail of procuring sleep, and often aggravate the symptoms, this medicine frequently succeeds.

Frederick Hoffman has written an express dissertation *De Camphora*

usu interno securissimo et præstantissimo. The substance of his observation is, that camphor seems to penetrate very quickly through the whole body, and notably increase perspiration: that though given to the quantity of half a dram, dissolved in spirit of wine, and duly diluted, it does not raise the pulse or occasion any heat, but rather causes a sense of coolness about the præcordia: that on continuing its use for some time, the blood became sensibly more fluid, and the quantity of watery serum, with which the habit before abounded, was notably diminished: that in malignant fevers, and all disorders, whether acute or chronical, proceeding from an acrid or putrescent state of the juices, camphor has excellent effects, correcting the acrimony, expelling the putrid morbid matter through the cutaneous pores, and preventing an inflammation or sphacelus, where there is previously any disposition thereto: that, by strengthening the vessels, it restrains hæmorrhages happening in acute fevers, and promotes critical and periodical evacuations. In inflammatory cases, where there is a tendency to mortification, intense heat, thirst, or where the skin is dry and parched, whether before or after a delirium has come on, small doses of camphor joined with nitre, produced happy effects, almost immediately relieving the symptoms, occasioning a calm sleep and plentiful sweat, without fatiguing the patient. He further observes, that this simple, by its antiphlogistic quality, prevents the ill effects of the more irritating medicines. There has been great diversity of opinion respecting the medical virtues of camphor, whether it was a stimulant or sedative; however, now, from a vast variety of experiments, it has been proved, and generally allowed to be a sedative. It lessens the frequency of the pulse, and when given in a

very large dose, it produces a weakness, and paleness of the whole body, and sometimes sudden death occasioned by a direct action on the nervous system.

It has been employed in fevers of all kinds, but its use has been especially remarkable in those of the putrid kind. It will resist, and cure in many cases, gangrene. It has been of great service in the confluent small-pox; spasmodic, and convulsive affections; in epilepsy; in maniacal and melancholic cases.

It has been used in most acute inflammatory diseases, and in acute rheumatism, with some advantage. It has been of great service externally employed in ascites, rubbing the abdomen with a strong solution of camphor and oil; and in taking off severe pains of the muscles and joints in acute rheumatism. Nor is there any doubt of its taking off the inflammatory state both of rheumatism and gout; but in the latter it is rather a dangerous experiment, as it occasions only a retrocession of that disease; as also in the rheumatism, where the complaint was very long and general in the system. And indeed, whenever diseases depend upon a mobility of the nervous powers, and an irregularity of its motions, it may be expected, that such a powerful sedative should be of service. Its dose is from 5 grains to 30 grains, but may be gradually increased to a much larger dose, according to the exigencies of the case; with myrrh it will mix into a homogeneous fluid with water. Vinegar is also said to add to its efficacy, particularly as a diaphoretic.

MED. VIRT. *Sedative—diaphoretic—diuretic, and antiseptic.*

PREP. *Mistura camph.* — *Sps. camph.* and an ingredient in many other compositions.

CANCROURUM CHELÆ; *Can-*

cer pagurus Lin. *Sys. Nat.* [L. E.] Crabs' claws: the black tips of the claws of the common sea crab, or *cancer marinus*.

CANCROURUM OCULI *disti.* Crabs' eyes so called: stony concretions found in the head, or rather stomach, of the *cancer asellus* Lin.

The only virtue of these simples is to absorb acidities in the primæ viæ.

Crabs' eyes are said by most writers on the materia medica to be frequently counterfeited with tobacco-pipe clay, or compositions of chalk with mucilaginous substances. This piece of fraud, if really practised, may be very easily discovered; the counterfeits wanting the leasy texture which is observed upon breaking the genuine; more readily imbibing water; adhering to the tongue; and dissolving in vinegar, or the stronger acids diluted with water, either entirely or not at all, or by piecemeal; whilst the true crabs' eyes, digested in these liquors, become soft and transparent, their original form remaining the same. This change happens, because the earthy part, on which depended their opacity and hardness, is dissolved by the gentle action of the acid, which leaves the conglutinating matter unhurt.

MED. VIRT. *Absorbent.*

CANELLA ALBA. [L. E.]

This is a bark rolled up into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitish colour, lightly inclining to yellow. It is the produce of a tall tree growing in great plenty in the low lands in Jamaica, and other American islands, called by Sir Hans Sloane *arbor baccifera laurifolia aromatica, fructu viridi calyculato racemoso*. The canella is the interior bark, freed from an outward thin rough one, and dried in the shade. The shops distinguish two

sorts of canella, differing from one another in length and thickness of the quills; they are both the bark of the same tree, the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, but not of the most agreeable kind, and is chiefly used to correct aloes, and other bitter subjects. Till of late this has been mistaken for the Cortex Winteranus, which see.

MED. VIRT. *Aromatic and stimulant.*

CANNABIS semèn: *Cannabis sativa* Lin. Hemp; the seed.

This plant, when fresh, has a rank narcotic smell: the water in which the stalks are soaked, in order to facilitate the separation of the tough rind for mechanic uses, is said to be violently poisonous, and to produce its effects almost as soon as drunk. The seeds also have some smell of the herb; their taste is unctuous and sweetish; on expression they yield a considerable quantity of insipid oil: hence they are recommended (boiled in milk, or triturated with water into an emulsion) against coughs, heat of urine, and the like. They are also said to be useful in incontinence of urine, and for restraining venereal appetites; but experience does not warrant their having any virtues of this kind.

CANTHARIDES [L. E.] *Meloi vesicatorius*.—Lin. S. N. Spanish flies. These insects are of a shining green colour, intermingled with more or less of a blue and a gold yellow. They are found adhering to different kinds of trees and herbs, in Spain, Italy, and France; the largest and most esteemed come from Italy.

Cantharides are extremely acrimonious: applied to the skin, they first inflame, and afterwards excoriate the part, raising a more perfect blister than any of the vege-

table acrids, and occasioning a more plentiful discharge of serum. The external application of cantharides is often followed by a stranguary, accompanied with thirst and feverish heat: this inconvenience may be remedied by soft unctuous or mucilaginous liquors liberally drank.

Cantharides taken internally, often occasion a discharge of blood by urine, with exquisite pain: if the dose is considerable, they seem to inflame and exulcerate the whole intestinal canal; the stools become mucous and purulent; the breath fetid and cadaverous; intense pains are felt in the lower belly; the patient faints, grows giddy, raving mad, and dies. All these terrible consequences have sometimes happened from a few grains. Herman relates, that he has known a quarter of a grain inflame the kidneys, and occasion bloody urine with violent pain. There are, nevertheless, cases in which this stimulating fly, given in larger doses, proves not only safe, but of singular efficacy for the cure of diseases that yield little to medicine of a milder class. In cold phlegmatic sluggish habits, where the viscera are overloaded, and the kidneys and ureters obstructed with thick viscid mucuous matter, cantharides have excellent effects; here the abounding mucus defends the solids from the acrimony of the fly, till it is itself expelled; when the medicine ought to be discontinued. Groenvelt employed cantharides with great success in dropsies, obstinate suppression of urine, and ulcerations of the bladder: giving very considerable doses made into boluses with camphor; and interposing large draughts of emulsions, milk, or other emollient liquors; by these means the excessive irritation, which they would otherwise have occasioned, was in great measure prevented. The camphor did

not perhaps contribute so much to this effect as is generally imagined; since it has no sensible quality that promises any considerable abatement of the acrimony of cantharides: nitre would answer all that the camphor is supposed to perform: this, with milk, or emollient mucilaginous liquors, drunk in large quantity, are the best correctors. Cantharides, in very small doses, may be given with safety also in other cases. Dr. Mead observes, that the *obstinate gleetings* which frequently remain after the cure of venereal maladies, and which rarely yield to balsamic medicines, are effectually remedied by cantharides; and that no one remedy is more efficacious in cutaneous and leprous disorders; in which last, proper purgatives are to be occasionally taken during the use of the cantharides. The best and safest preparation of cantharides for these purposes, is a spirituous tincture, and indeed in all cases, the tincture is far preferable, for internal use, to the fly in substance.

As they are allowed to be stimulants of the genital organs, which is their most certain operation, and as this power may be communicated to the parts contiguous, the internal use of the tincture has been recommended in *diabetes — leucorrhœa — amœnorrhœa*, &c. but the medicine is to be applied with great caution; small doses begun with, and gradually increased, and if no apparent benefit presents itself by a few doses, it should not be persisted in.

The virtues of cantharides are extracted by rectified spirit of wine, proof spirit, and water; but do not arise in distillation. The watery and spiritous extracts blister as freely as the fly in substance; whilst the fly remaining after the several menstrua have performed their office, is

to the taste insipid, and does not in the least blister or inflame the skin.

MED. VERT. Strongly stimulant, and vesicatory.

PREP. Ointments—plasters—tincture, &c.

CAPPARIS radicis cortex, et florum gemmæ: Capparis spinos. Lin. Caper bush; the bark of the root, and buds of the flowers.

This is a low prickly bush, found wild in Italy, and other countries; it is raised with us by sowing the seeds upon old walls, where they take root betwixt the bricks, and endure for many years.

The bark of the root is pretty thick, of an ash colour, with several transverse wrinkles on the surface: cut in slices and laid to dry, it rolls up into quills. This bark has a bitterish acrid taste; it is reckoned aperient and diuretic; and recommended in several chronic disorders, for opening obstructions of the viscera.

The buds, pickled with vinegar, &c. are used at table. They are supposed to excite appetite, and promote digestion; and to be particularly useful, as detergents and aperients, in obstructions of the liver and spleen. Their taste and virtues depend more upon the saline matter introduced into them, than on the caper buds.

CARDAMINES FLORES: Cardaminis pratensis Lin. [L. E.] Ladies' smock, or cuckow flower. This is a plant in taste resembling cress. It has an erect stalk; and leaves set in pairs on a middle rib, with an odd one at the end. Its flower is white or purplish, and is succeeded by a bivalvular pod. It grows in plenty in moist low meadows, and flowers early in the spring.

The virtue of the flowers of ladies' smock, in hysteric and epileptic cases, was first noticed by Ray; and their use has been revived by sir George Baker, who gave them with

success, he says, in spasmodic asthma, chorea sancti Viti, epilepsy, &c. in dose of ℥j. to ʒj. of the powder twice a day; reduced to that state after being properly dried.

CARDAMOMI MINORIS *semen*. *Amomum repens*, Sonnerati iter. Lesser cardamom. The seeds of this fruit are considerably stronger both in smell and taste than those of the cardamum majus; and hence is the only one now directed in the shops. [L. E.]

Cardamom seeds are a very warm, grateful, pungent aromatic, and frequently employed as such in practice: they are said to have this advantage, that notwithstanding their pungency, they do not, like those of the pepper kind, immoderately heat or inflame the bowels. Both water and rectified spirit extract their virtues by infusion, and elevate them in distillation; with this difference, that the tincture and distilled spirit are considerably more grateful than the infusion and distilled water: the watery infusion appears turbid and mucilaginous; the tincture made in spirit, limpid and transparent. The husks of the seeds, which have very little smell or taste, may be commodiously separated, by committing the whole to the mortar, when the seed will readily pulverise, so as to be freed from the shell by the sieve: this should not be done till just before using them; for if kept without the husks, they soon lose much of their flavour. — They are considered as warm cordial stomachics, and may be taken in powder from five to ten grains or more.

MED. VIRT. *Aromatic and stimulant.*

PREP. *Tincture, and an Ingredient in several officinal compositions.*

CARDIACÆ *folia*: *Leonuri Cardiatæ* Lin. Motherwort; the leaves.

This plant is common in waste places, and found in flower during

the greatest part of the summer. The leaves have a bitter taste, and a pretty strong smell; they are supposed to be useful in hysteric disorders, to strengthen the stomach, to promote urine; and indeed it may be judged from their smell and taste, that their medicinal virtues are considerable, though they are now rejected both from the London and Edinburgh Pharmacopœias.

CARDUI BENEDICTI *folia semen*: *Centaurea benedictæ* Lin. Blessed thistle; the leaves [L. E.]

This is an annual plant, cultivated in gardens: it flowers in June and July, and perfects its seeds in the autumn. The herb should be gathered when in flower, dried in the shade, and kept in a very dry airy place, to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taste, not very strong, or very durable; accompanied with an ungrateful flavour, from which they are in great measure freed by keeping. Water extracts, in a little time, even without heat, the lighter and more grateful parts of this plant; if the digestion be continued for some hours, the disagreeable parts are taken up; a strong decoction is very nauseous and offensive to the stomach. Rectified spirit gains a very pleasant bitter taste, which remains uninjured in the extract.

The virtues of this plant seem to be little known in the present practice. The nauseous decoction is sometimes used to provoke vomiting; and a strong infusion to promote the operation of other emetics. But this elegant bitter, when freed from the offensive parts of the herb, may be advantageously applied to other purposes. I have frequently experienced excellent effects from a light watery infusion of carduus, with fresh lemon, or dried orange peel, in loss of appetite, where the stomach was

injured by irregularities. *A stronger infusion* made in cold or warm water, if drunk freely, and the patient kept warm, occasions a plentiful sweat, and promotes all the secretions in general.

MED. VIRT. *Stomachic.*

PREP. *Infusion.*

CARICÆ [L. E.] Figs; the dried fruit of the *Ficus Carica* Lin.

The principal use of these is as a soft emollient sweet. In this intention they enter the pectoral decoction and lenitive electuary of the shops. They are also esteemed by some as suppuratives, and hence have a place in the maturing cataplasms.

MED. VIRT. *Emollient and suppurative.*

PREP. *Ingredient in Decoct. Hord. Comp. and Cataplasma maturans.*

CARUON, carvi, seu cari, semen: *Carum Carui* Lin. Caraway; the seeds [L. E.]

Caraway is an umbelliferous plant, cultivated with us in gardens, both for culinary and medicinal use. The seeds have an aromatic smell, and a warm pungent taste. These are in the number of the four greater hot seeds; and frequently employed as a stomachic and carminative in flatulent colics, and the like. They contain a large proportion of oil, and except some peculiarity in odour, neither their seeds, nor their oil differ in their virtues from those of anise.

MED. VIRT. *Aromatic—Carminative.*

PREP. *Essential Oil.*

CARYOPHYLLUS AROMATICUS, Lin. Sp. Pl. [L. E.] Clove; the unripe seed-vessel, and its essential oil.

Cloves are the flower-cups (not, as is generally supposed, the fruit) of a bay-like tree, growing in the East Indies. In shape, they somewhat resemble a short thick nail.

Cloves have a very strong agreeable aromatic smell, and a bitterish

pungent taste, almost burning the mouth and fauces. The Dutch, from whom we have this spice, frequently mix it with cloves which have been robbed of their oil: these, though in time they regain from the others a considerable share both of taste and smell, are easily distinguishable by their weaker flavour and lighter colour. Cloves, considered as medicines, are very hot stimulating aromatics, and possess, in an eminent degree, the general virtues of substances of this class. Though they are seldom used but as correctors to officinal compositions, they may be given in infusion, in the proportion of two drams of cloves to half a pint of boiling water; of which 3 or 4 spoonfuls may be given at a dose, in flatulent complaints, in dyspepsy, and as a vehicle to other medicines.

MED. VIRT. *Aromatic—Stimulant.*

PREP. *Essential oil.*

CARYOPHYLLÆ RUBRÆ: Flores. *Dianthi caryophylli* Lin. Clove July flowers [L. E.]

A great variety of these flowers are met with in our gardens. Those made use of in medicine ought to be of a deep crimson colour, and a pleasant aromatic smell, somewhat like that of cloves: many sorts have scarce any smell at all. The *caryophylla rubra* are said to be cardiac and alexipharmic. At present the flowers are chiefly valued for their pleasant flavour, which is entirely lost even by light coction; hence the college direct the syrup, which is the only officinal preparation of them, to be made by infusion;—

CARYOPHYLLATÆ radix: *Gei urbani* Lin. Avens, or herb benet; the root.

Avens is a rough plant found wild in woods and hedges. The root has a warm, bitterish, astringent taste, and a pleasant smell, some-

what of the clove kind, especially in the spring, and when produced in dry warm soils. Parkinson observes, that in the growth of moist soils it has nothing of this flavour. This root has been employed as a *stomachic*, and for *strengthening the tone of the viscera in general*: it is still in some esteem in foreign countries, though not taken notice of among us. It yields, on distillation, an elegant odoriferous essential oil, which concretes into a staky form.

This root is considerably astringent, and has some aroma, when it has been recently raised in the spring season, and upon dry soil.

Some foreign physicians have spoken highly in its favour against intermittents: but on repeated trials it has been found inadequate to the Peruvian bark.

MED. VIRT. *Astringent—Aromatic.*

PREP. *Essential Oil.*

CASIA FISTULARIS, *Cassia fistula* Sp. Plant. [L. E.] Cassia of the cane, the fruit of an oriental tree, resembling the walnut.

This fruit is a cylindrical pod, scarce an inch in diameter, a foot or more in length: the outside is a hard brown bark; the inside is divided by thin transverse woody plates, covered with a soft black pulp, of a sweetish taste, with some degree of acrimony. There are two sorts of this drug in the shops; one brought from the East-Indies, the other from the West: the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauseous; those of the former are less, smoother, the pulp blacker, and of a sweeter taste; this sort is preferred to the other. Such pods should be chosen as are weighty, new, and do not make a rattling noise (from the seeds being loose within them) when shaken. The pulp should be of a bright shining black colour, and a sweet

taste, not harsh (which happens from the fruit being gathered before it is grown fully ripe) or sourish (which it is apt to turn upon keeping). It should neither be too dry, nor too moist, nor at all mouldy, which, from its being kept in damp cellars, or moistened, in order to increase its weight, it is very subject to be. Greatest part of the pulp dissolves both in water and in rectified spirit; and may be extracted from the cane by either. The shops employ water, boiling the bruised pod therein, straining, and afterwards evaporating the solution to a due consistence.

The pulp of casia is a gentle *laxative medicine*, and frequently given, in a dose of some drams, in costive habits. Some direct a dose of two ounces or more as a cathartic, in *inflammatory cases*, where the more acrid purgatives have no place: but in these large quantities it generally nauseates the stomach, produces flatulencies, and sometimes gripings of the bowels, especially if the casia is not of a very good kind; these effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy says, it does excellent service in the *painful tension of the belly*, which sometimes follows the imprudent use of antimonials; and that it may be advantageously acuated with the more acrid purgatives, or antimonial emetics, or employed to abate their force. Vallisnieri relates, that the *purgative virtue of this medicine is remarkably promoted by manna*; that a mixture of four drams of casia, and two of manna, purges as much as twelve drams of casia, or thirty-two of manna alone. Sennertus observes, that the urine is apt to be turned of a green colour by the use of casia; and sometimes, where a large quantity has been taken, blackish. So little opinion had Dr. Cullen of the efficacy of this drug

from repeated trials, that he considers the pulp of prunes to possess superior power, and therefore thinks it might very properly be omitted in the official compositions, wherein it is now used.

MED. VIRT. *Aperient.*

PREP. *Elestuary* — *Ingredient in another Elestuary.*

CASIA LIGNEA: the bark of an Indian tree. *Laurus Cassia Lin.* [E.]

This bark, in appearance and aromatic flavour, approaches to cinnamon; from which it is easily distinguishable by its remarkable viscosity: chewed, it seems to dissolve in the mouth into a slimy substance; boiled in water, it gives a strong mucilage, the aromatic part exhaling; the water obtained by distillation, unless drawn with great care, has an unpleasant smell, somewhat of the empyreumatic kind: nevertheless the distilled oil proves nearly of the same quality with that of cinnamon. Cassia possesses the aromatic virtues of cinnamon; but in an inferior degree; and its effects are less durable. Its glutinous quality renders it useful in some cases where simple aromatics are less proper.

MED. VIRT. *Aromatic.*

CASTOREUM [L. E.] *Castor Fiber Lin.* Castor.

Castor appears to be a peculiar fatty substance, deposited in the cells, or bags, situated near the rectum, in the beaver, a four-footed amphibious animal, frequent in several parts of Europe and America. The best comes from Russia; this is in large round hard cods, which appear, when cut, full of a brittle red liver-coloured substance, interspersed with membranes and fibres exquisitely interwoven. An inferior sort is brought from Dantzick; this is generally fat and moist. The worst of all is that of New

England, which is in longish thin cods.

Russia castor has a strong disagreeable smell, and an acrid, biting, bitterish, nauseous taste. Water extracts the nauseous part, with little of the finer bitter; rectified spirit extracts this last, without much of the nauseous; proof spirit, both; water elevates the whole of its flavour in distillation; rectified spirit brings over nothing.

Castor is looked upon as one of the capital *nervine* and *antihysteric* medicines: some celebrated practitioners have nevertheless doubted its virtues; and Neumann and Stahl declare it insignificant. Experience, however, has shown, that the virtues of castor are considerable, though they are certainly far less than they have been generally supposed to be. Dr. Cullen says that on many occasions it is a *powerful antispasmodic*, in doses from ten to thirty grains; though he allows not of the narcotic power attributed to it. The medicinal virtues, he thinks, are best extracted by spirit of wine, as this probably extracts most powerfully the odoriferous oil upon which the medical quality is thought to depend. The Edinburgh college are of this opinion, but the London orders proof spirits. Either of them may be given as a medicine to be suddenly diffused; but he prefers the compound tincture of castor of the Edinburgh Dispensatory for the attaining this purpose.

MED. VIRT. *Nervine* and *antispasmodic.*

PREP. *Powder* — *Tincture* — *Compound Tincture.*

CASUMUNAR.

This is a tuberous root, an inch or more in thickness, marked on the surface with circles or joints like galangal, of a brownish or ash colour on the outside, and dusky yellowish within; it is brought

from the East-Indies, cut into transverse slices: what kind of plant it produces, is not known.

Casumunar has a warm bitterish taste, and an aromatic smell, somewhat resembling that of ginger. It has been celebrated in *hysteric cases, epilepsies, palsies, loss of memory, and other disorders*. The present practice sometimes employ it as a *stomachic* and *carminative*, but it is not so much used or known as it deserves to be.

MED. VIRT. *Stomachic — Carminative.*

CENTAURI MINORIS *summitates: Gentianæ Centaurei Lin.* Lesser centaury; the tops [L. E.]

This grows wild in many parts of England, in dry pasture grounds, and amongst corn. The tops are an useful aperient bitter: the Edinburgh Pharmacopœia directs an extract to be prepared from them, and employs them as an ingredient in the bitter infusion and stomachic tincture. It possesses all the virtues of gentian, and therefore the extract is preferred to that of gentian, as being cheaper.

MED. VIRT. *Stomachic.*

PREP. *Extract — Tincture — Infusion.*

CEPA: *Allium Cepa Lin. radix.* Onions: the root.

Onions differ from other bulbous-rooted plants, in having single roots, or such as cannot be parted so as to increase the plant. These roots are considered rather as articles of food than of medicine: when eaten liberally, they produce flatulencies, occasion thirst, headaches and turbulent dreams: in *cold phlegmatic habits, where viscid mucus abounds, they doubtless have their use*; as by their stimulating quality they tend to *excite appetite, attenuate thick juices, and promote their expulsion*; by some they are strongly recommended in *suppressions of urine,*

and in *dropsies*. The chief medicinal use of onions in the present practice is in external applications, as a cataplasm for suppurating tumours. When boiled and taken as food, both from their sweetness, and the mucilage with which they abound, they are considered to afford considerable nourishment.

MED. VIRT. *Attenuating — diuretic.*

CERA FLAVA [L. E.] Yellow bees' wax.

This is a solid concrete, obtained from the honeycombs after the honey is taken, by heating and pressing them betwixt iron plates. The best sort is of a lively yellow colour, and an agreeable smell, somewhat like that of honey; when new, it is toughish, yet easy to break; by age it becomes harder and more brittle, it loses its fine colour, and in great measure its smell.

CERA ALBA [L. E.] White wax is prepared from the yellow, by reducing it into thin flakes, and exposing it for a length of time to the air; when sufficiently bleached, it is melted, and cast into cakes. The best sort is of a clear and almost transparent whiteness, and of a light agreeable smell like that of the yellow wax, but much weaker.

The chief medicinal use of wax is in cerates, plasters, unguents, &c. as an emollient for promoting suppuration, &c. It readily unites with oils and animal fats, but not with watery or spirituous liquors. It is given also internally in diarrhœas, dysenteries, &c. either mixed with oily substances, or divided by earthy powders.

MED. VIRT. *Emollient.*

PREP. *Ingredients in many plasters and ointments, and some balsams.*

CERASA: *Prunus cerasus Lin.* *folia — fructus — gummi.* The cherry — leaves — fruit — and gum.

The sweet cherry with a black

juice; the pleasantly sourish cherry, with a colourless juice; and the very sour cherry, with a blood-red juice; commonly called black, red, and morello cherries.

These fruits, especially the acid sorts, are very useful and agreeable coolers and quenchers of thirst; and are sometimes directed in this intention, in *hot bilious*, or *febrile distempers*. Boerhaave was extremely fond of these and the other fruits called *horæi*, as aperients in some chronic cases; and declares himself persuaded, that there is no kind of obstruction of the viscera capable of being removed by medicine, which will not yield to the continued use of these. These are seldom used as a medicine; the gum of the cherry tree is a pretty pure vegetable mucilage, nearly approaching to gum arabic. A water used to be extracted from black cherries and their bruised kernels; but as the kernels do certainly contain a like matter with the lauro-cerasus; and from them by certain management a very powerful poison can be obtained, this water is now rejected.

MED. VIRT. *Refrigerating*—THE GUM—Similar to that of Gum Arabic.

CHÆREFOLII folia: *Scandix Chærefolii Lin.* Chervil; the leaves.

This is a low annual plant somewhat like parsley, commonly cultivated in gardens for culinary purposes. This plant is grateful both to the palate and stomach, *gently aperient and diuretic*. Geoffroy assures us, that he has found it from experience to be of excellent service in *dropsies*: that, in this disorder, it promotes the discharge of urine when suppressed; renders it clear, when feculent and turbid; and when high and fiery, of a paler colour; that it acts mildly without irritation, and tends rather to allay than excite inflam-

mation. He goes so far as to say, that dropsies which do not yield to this medicine, are scarce capable of being cured by any other. He directs the juice to be given in a dose of three or four ounces every fourth hour, and continued for some time, either alone, or in conjunction with nitre and syrup of the five opening roots.

MED. VIRT. *Aperient and diuretic*.

CHAMÆDRYOS folia, *Tencrii Chamædryos Lin.* Germander; the leaves and tops with the seed.

This is a low thrubby plant, cultivated in gardens. The leaves, tops, and seeds, have a bitter taste, with some degree of astringency and aromatic flavour. They are recommended as *sudorific*, *diuretic*, and *emmenagogue*, and for *strengthening the stomach and viscera in general*. With some they have been in great esteem in *intermittent fevers*; as also in *scrophulous and other chronic disorders*. It has been celebrated with the chamæpitys for its *antarthritic* virtues, both of which make a part in the Portland powder: but they are not now thought to have any considerable efficacy.

MED. VIRT. *Sudorific—diuretic, &c.*

CHAMÆMELI folia, flores: *Anthemis nobilis Lin.* Single-flowered chamomile [L. E.]

These have a strong not ungrateful aromatic smell, and a very bitter nauseous taste. They are accounted *carminative*, *aperient*, *emollient*, and in some measure *anodyne*: and stand recommended in *flatulent colics*, for promoting the *uterine purgations*, in *spasmodic pains*, and the *pains of child-bed women*: sometimes they have been employed in *intermittent fevers*, and the *nephritis*. These flowers are frequently also used externally in *discentient and antiseptic fomentations*, and in *emollient glisters*. They have been employed

with success in *intermittents*, in powder in doses of from ʒss. to a ʒj. between the fits: but then it should be joined with an opiate, or astringent, otherwise it is apt to run off by the bowels. The flowers are considered as a good stomachic, and have been useful in pains of the stomach, taken in infusion warm, in doses of about four or six ounces twice a day; for in this state it has been observed to be more efficacious than when cold.

MED. VIRT. Stomachic — Carminative.

PREP. Infusion — Extract — Essent. Oil.

CHAMÆMELUM flore multiplici C. B. Double-flowered chamomile; the flowers.

These differ from the foregoing in having several rows of the white petala set thick together about the middle disk, which is much smaller. In this disk the medicinal qualities of the flower chiefly reside. The virtues of these are precisely the same as those of the former, but they are considered the strongest: and if any regard is to be had to the essential oil, these flowers afford the greatest quantity.

CHAMÆPITYOS folia, Teucree Chamæpityos, Lin. Ground-pine; the leaves.

This is a low hairy plant, clammy to the touch, and of a strong aromatic resinous smell, and a bitter roughish taste. It is recommended as an aperient and vulnerary, as also in gouty and rheumatic pains. Indeed it is said to have the same properties as the chamædryas.

CHELIDONII MAJORIS, Lin. folia, radix. Celandine; the herb and root.

This plant grows upon old walls, among rubbish, and in waste shady places. The herb is of a blueish green colour; the root of a deep red; both contain a gold coloured juice; their smell is disagreeable; the taste somewhat bitterish, very

acid, biting and burning the mouth: the root is the most acid. Juice of celandine has long been celebrated in disorders of the eyes; but it is greatly too sharp, unless plentifully diluted, to be applied with safety to that tender organ. It has been sometimes used, and it is said with good success, for extirpating warts, cleansing old ulcers, and in cataplasms for the herpes miliaris. This acrimonious plant is rarely given internally; the virtues attributed to it are those of a stimulating aperient, diuretic, and sudorific: it is particularly recommended in the slow kind of jaundice, where there are no symptoms of inflammation, and in dropsies; some suppose the root to have been Helmont's specific in the hydrops ascites. Half a dram or a dram of the dry root is directed for a dose; or an infusion in wine of an ounce of the fresh root.

MED. VIRT. Stimulating — Diuretic — Sudorific.

PREP. Infusion — dried root powdered.

CHINÆ radix. China root.

There are two sorts of this root in the shops, one brought from the East Indies, (*Smilax China* Lin.) the other from the West, (*Smilax Pseudo-China* Lin.) They are both longish, full of joints, of a pale reddish colour, of no smell, and very little taste: the oriental, which is the more esteemed, is considerably harder and paler-coloured than the other. Such should be chosen as is fresh, close, heavy, and upon being chewed appears full of a fat unctuous juice. China root was either unknown or disregarded by the ancient physicians. It was first introduced into Europe about the year 1535, with the character of a specific against venereal and cutaneous disorders, and, as such, was made use of for some time, but at length gave place to medicines of a more powerful kind. It is generally sup-

posed to promote *insensible perspiration* and the *urinary discharge*; and by its unctuous quality to *abund* *acrimonious juices*.

MED. VIRT. *Diaphoretic* — *Diuretic*.

CICHOREI folia, radix: *Cichorii Intybi Lin.* Wild succory; the roots and herb.

The root has a moderately bitter taste, with some degree of roughness; the leaves are somewhat less bitter: the roots, stalks, and leaves yield, on being wounded, a milky saponaceous juice. By culture this plant loses its green colour and its bitterness, and in this state is employed in salads: the darker coloured, and more deeply jagged the leaves, the bitterer is their taste.

Wild succory is an *useful detergent, aperient, and attenuating medicine*, acting without much irritation, *tending rather to cool than to heat the body*, and, at the same time, *corroborating the tone of the intestines*. The juice taken in large quantities, so as to keep up a gentle diarrhœa, and continued for some weeks, has been found to produce excellent effects in scorbutic and other chronic disorders.

MED. VIRT. *Laxative* — *Antiscorbutic*.

CICUTÆ folia: *Conii maculati Lin.* Hemlock; the leaves, flower, and seed [*L. E.*]

As it is of great importance to be perfectly acquainted with this vegetable substance, being the mildest of the hemlocks, the following description has been given in order to distinguish it from the rest; and from other plants also to which it is similar in appearance.

The LEAVES are large, with a hollow round rib; of a dark or blackish green colour on the upper side, and of a whitish green underneath; separated into a number of small oblong, somewhat oval segments, which stand in

pairs: these segments are again deeply cut, but not quite divided on both sides; and many of these ultimate sections have one or two slighter indentions. The flowers consist of five white pointed petals. The seeds are flat on one side, on the other convex, and rendered unequal by five elevated striæ. These striæ are elegantly indented like a saw, and this last is a most certain characteristic. The whole plant is somewhat smooth.

The root is biennial, white, the thickness of a finger, often branched: the first year only producing leaves, when it yields, on being cut, a milky liquor; the second year, when it has stalks, it is almost juiceless.

The stalk, which rises several feet high, is as thick as the finger, round, hollow, with impervious knots, greenish, and having commonly spots of a deep red, variegated-irregularly with white streaks, and spots of a red or blackish purple.

The leaves, stalks, and flowers, have a peculiar foetid smell, like mice, which at some times is in the highest degree; at others so little, even in the same plant, as scarcely to be perceptible, unless when rubbed between the fingers. The hemlock, though genuine, which has not this smell, must not be taken, as being less efficacious. This plant is common about the sides of fields, under hedges, and in moist shady places, and flowers in June and July. Hemlock is sometimes applied externally as a *discutient*. With regard to its virtue when taken internally, it has been generally accounted poisonous, which it doubtless is, in a high degree, when used in any considerable quantity. But Dr. Stoerck has found, that in certain small doses it may be taken with great safety, and that, without at

all disordering the constitution, or even producing any sensible operation, it sometimes proves a powerful resolvent in many obstinate disorders. It is used with advantage in scrophulous tumors; in foul as well as scrophulous and venereal ulcers, both internally and externally; in scabies; phthiſis; rheumatism, &c. &c. See *Succus cicutæ spiffatus*.

MED. VIRT. *Resolvent and alterant.*

PREP. *Powder and Extract.*

CINARA: *Cinara Scolymus* Lin. S. P. Artichoke; the leaves [L. E.]

This plant is too well known to need any description. The expressed bitter juice of the leaves, not depurated, or only freed from the grosser feculencies by pressing it through a coarse strainer, is mixed with an equal quantity of white wine, and three or four table spoonfuls of this mixture given night and morning, as a diuretic, in some dropſical cases, or as a deobstruent in jaundice. In a larger dose, it is a strong purgative. For these purposes sometimes an infusion of the leaves is used: but this mode of administration is more uncertain.

MED. VIRT. *Diuretic.*

PREP. *Expressed juice—Infusion.*

CINCHONÆ CORTEX: *Cinchona officinalis* Lin. S. P. [L. E.]

This is a species of the Jesuits' bark, the product of Jamaica and the Caribbee islands. This tree, called by the natives the sea-side beech, grows to the height of from twenty to forty feet. The outer bark of these trees is white, furrowed, and very thick. This is inert, and may be knocked off from the inner, which is of a dark brown colour. Its flavour is at first sweet, with a mixture of the taste of horse-radish and of the eastern aromatics; but when swallowed, it has that very bitterness and astringency which

characterise the Peruvian bark. It yields its virtues both to cold and warm water; and a decoction of half an ounce of it, boiled in a quart of water to the consumption of a pint, proved as strong as a decoction of an ounce and an half of the true bark. With the addition of orange peel it makes an elegant and grateful bitter tincture. It has been given in London in an intermittent, and effected a cure as completely as the Peruvian bark.

MED. VIRT. *Resolvent and alterant.*

PREP. *Powder and Extract.*

CINERES RUSSICI: *Cineres clovelli*; *Kali impurum*. Pot-ash; and pearl-ash; Russian pot-ash [L. E.]

Pot-ash is an impure alkaline salt, produced from vegetable matters by burning. The strongest is brought from Russia, in dark coloured very hard masses, which do not soon deliquesce in the air, like the purer alkaline salts. This sort is said to be prepared by burning wood with a close smothering heat, and making the ashes, with a ley drawn from the coarser part of them, into a paste, which is afterwards stratified with some of the more inflammable kinds of wood, and burnt a second time: by these means the salt melts, and concretes with the earthy matter of the ashes into hard cakes; but it appears from experiment, that this kind of pot-ash contains, besides the vegetable earth, a large proportion of quicklime. A purer and whiter salt is brought to us from Germany, under the name of pearl-ashes: this is extracted from wood ashes by means of water, and afterwards reduced into a dry form by evaporation. These salts are liable to great abuses from sundry admixtures, and therefore should never be employed for medicinal purposes, without due purification:

this may be effected by solution in cold water, filtration, and exsiccation. See Part III. chap. viii.

CINNABARIS NATIVA. Native cinnabar.

This is a ponderous mineral of a red colour, found in Spain, Hungary, and several other parts of the world. The finest sort is in pretty large masses, both externally and internally of an elegant deep red colour, which greatly improves upon grinding the mass into fine powder; this is imported by the Dutch from the East-Indies. There is another sort, of a good colour, in roundish drops, smooth without, and striated within.

This mineral appears from chemical experiments to be composed of mercury and sulphur, in such a manner, that the quantity of the former is commonly above six times greater than that of the latter: the finer the colour of the cinnabar, the more mercury it is found to hold. Native cinnabar has been by many preferred as a medicine to that made by art: but there does not appear to be any just foundation for this preference. The native has sometimes been observed to occasion nausea, vomiting, and anxiety: these probably proceeded from an admixture of some arsenical particles from which it could not be freed by repeated ablution. When pure, it has no quality or medical virtue distinct from those of the artificial cinnabar; like which, it is not dissoluble in the animal fluids, and is commonly found of little activity.

CINNAMOMUM. *Laurus Cinnamomum* Lin. Cinnamon, the bark, and its essential oil [L. E.]

This is a light thin bark of a reddish colour, rolled up in long quills or canes; of a fragrant, delightful smell, and an aromatic, sweet, pungent taste, with some de-

gree of astringency; but so slight, that it can never be by itself depended upon. It is also stimulating and heating; for even the simple distilled water, when frequently employed, has proved hurtfully irritating to the stomach. It is generally mixed with the cassia bark: this latter is easily distinguishable by its breaking over smooth, whilst cinnamon splinters; and by its slimy mucilaginous taste, without any thing of the roughness of the true cinnamon. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach, than most other substances of this class: by its astringent quality it likewise corroborates the viscera, and proves of great service in several kinds of alvine fluxes, and immoderate discharges from the uterus. An essential oil, a simple and spirituous distilled water, and a tincture of it, are kept in the shops: it is likewise employed as a spicy ingredient in a great number of compositions. The essential oil is only obtained by us as imported from the East Indies; and, when obtained in its genuine state, is one of the most powerful and agreeable aromatics we can employ.

MED. VIRT. *Aromatic — corroborant — astringent.*

PREP. *Powder — simple and spirituous distilled Water — Tincture — Essential Oil.*

CITREORUM *cortex et succus:* *Citrus medica* Lin. Citrons; the yellow rind and juice.

The citron is an evergreen tree or shrub, of the same genus with the orange and lemon; it was first brought from Assyria and Media (whence the fruit is called *mala Assyria*, *mala Medica*) into Greece, and thence into the southern parts of Europe, where it is now cultivated. Citrons are rarely made use of among us: they are of the

same quality with lemons, except that their juice is somewhat less acid.

COCCINELLA, *seu Cochinilla*, *Coccus Cacti* Lin. S. N. Cochineal [L. E.]

This is a small irregular roundish body, of a dark red colour on the outside; and deep bright red within: it is brought from Mexico and New Spain. This substance has long been supposed to be the seed of a plant: but it appears, from chemical experiments, to be an animal, and from the accounts of the more celebrated naturalists, an insect, which breeds on the American prickly pear-tree, and adheres to it without changing its place. Cochineal has been strongly recommended as a *sudorific*, *cardiac*, and *alexipharmac*; but practitioners have never observed any considerable effects from it. Its greatest consumption is among the scarlet-dyers; and in medicine its principal use is as a colouring drug: both watery and spirituous liquors extract its colour.

COCHLEARIAE HORTENSIS *folia*: Lin. Garden scurvy-grass; the leaves [L. E.]

COCHLEARIAE MARINÆ *folia*: *Cochlearia anglica* Lin. Sea scurvy-grass; the leaves.

These plants have little other difference, as to their external appearance, than that expressed in their titles: in taste and medical virtue, the former is considerably the stronger; and hence is alone retained both by the London and Edinburgh colleges.

Scurvy grass is a pungent stimulating medicine; capable of *dissolving viscid juices*, *opening obstructions of the viscera* and *the more distant glands*, and *promoting the fluid secretions*: it is particularly celebrated in *scurvies*, and is the principal herb employed in these kinds of disorders in the northern coun-

tries. It is eaten as salad, and the expressed juice is the most effectual as a medicine, and chiefly given under the title of *Succus Cochleariæ Scorbüticus*.

MED. VIRT. *Stimulating and Attenuant.*

PREP. *A Conserve — Spirit — Expressed Juice.*

COFFEA: *Coffea Arabica* Lin. Coffee: the fruit of an oriental shrub called by JUSSIEU *jasminum Arabicum lauri folio*, *cujus semina apud nos caffè dicitur*.

This fruit is employed rather as food than as a medicine. The medicinal effects expected from it are, to *assist digestion*, *promote the natural secretions*, and *prevent or remove a disposition to sleepiness*.

MED. VIRT. *Stomachic and Corroborant.*

COLCHICUM: *Colchicum autumnale* Stoeck. & Lin. [L. E.]

Meadow Saffron; a plant growing in rich moist meadow grounds in the southern and western parts of England. It has a bulbous root, producing from the lower part a smaller bulb; from this last arises, in autumn, along a furrow in the side of the old root, a slender hollow transparent pedicle, widening at top into a flower like those of crocuses, of a whitish red purple colour: from the same root, next spring, come forth three or four upright leaves, like those of the lily; in the middle of which appear, on short pedicles, three triangular pods, about the size of small walnuts, divided into three cells full of roundish dark-coloured seeds. The roots, freed from the outer blackish coat and the fibres at bottom, are, while fresh, of a white colour, fleshy, and full of a milky juice.

This is one of those plants, whose violent and singular effects engaged the attention of Dr. Stoeck. He observes, that on

cutting the fresh root into slices, the acrid particles emitted from it irritate the nostrils, fauces, and breast, and that the ends of the fingers with which it had been held, become for a time benumbed: that, applied for two minutes to the tip of the tongue, it rendered the part rigid, and almost void of sensation for six hours: that less than a grain, wrapt up in crumb of bread and taken internally, produced alarming symptoms, a burning heat and pain in the stomach and bowels, strangury, tenesmus, thirst, total loss of appetite, &c. which were greatly relieved by an acidulated mixture with syrup of poppies, and which on the fourth day went entirely off; that an infusion of three grains of the root in four ounces of wine, slowly swallowed, occasioned a tickling in the larynx, and short dry cough, soon after a heat in the urinary passages and a copious discharge of pale urine; that an ounce of the sliced juicy root, being digested with a gentle heat in a pound of vinegar for forty-eight hours, and the bottle frequently shaken, the root became almost insipid, and the strained liquor proved acrid in taste, irritated and constricted the fauces, and raised a short cough: that this vinegar, mixed with twice its quantity of honey, and gently boiled down to the consistence of honey, proved a sufficiently grateful oxymel, which, taken in doses of a dram, promoted a copious discharge of urine, without inconvenience. He made trial of this oxymel, in the hospital at Vienna, in desperate hydropic and others serous disorders, in which it was found to act as a most potent diuretic. He begins with giving a dram twice a day in any suitable vehicle, and gradually increases the dose to an ounce, and sometimes an ounce and a half in a day: if this last quantity proves ineffectual, he thinks there are little hopes of any

benefit from this medicine. The Edinburgh college have now received into their Pharmacopœia a syrup of colchicum, made with the same infusion of the root in vinegar as above described, in which are dissolved twenty-six ounces of fine sugar. This syrup, in place of two or three drams merely, has been given to the extent of two or three ounces in a day, in general without inconvenience, and sometimes with good effects.

The London College form an oxymel, by putting to one pint of the vinegar of colchicum two pounds of clarified honey. However, the syrup is the best preparation, because with some people honey is apt to excite violent colic pains.

MED. VIRT. *Diuretic.*

PREP. *Syrup and Oxymel.*

COLOCYNTHIDIS *medulla.*
Cucumis Colocynthis Lin. Colocynthida, or bitter apple; the medullary part of the dried fruit [L. E.]

This is the produce of a plant of the gourd kind, growing in Turkey. The fruit is about the size of an orange: its medullary part, freed from the rind and seeds, is alone made use of in medicine: this is very light, white, spongy, composed of membranous leaves; of an extremely bitter, nauseous, acrimonious taste. Colocynth is one of the most powerful and most violent cathartics. Many eminent physicians condemn it as dangerous, and even deleterious: others recommend it not only as an efficacious purgative, but likewise as an alterative in obstinate chronic disorders. Thus much is certain, that colocynth, in the dose of a few grains, acts with great vehemence, disorders the body, and sometimes occasions a discharge of blood. Many attempts have been made to correct its virulence by the addi-

tion of acids, astringents, and the like; these may lessen the force of the colocynth, but no otherwise than might be equally done by a reduction of the dose. *The best method of abating its virulence, without diminishing its purgative virtue, seems to be by triturating it with gummy farinaceous substances, or the oily seeds, which, without making any alteration in the colocynth itself, prevent its resinous particles from cohering and sticking upon the membranes of the intestines, so as to irritate, inflame, or corrode them.* It is an ingredient in some of the purgative pills, and the cathartic extract of the shops; and is seldom used but in this way.

COLUMBÆ radix [*L. E.*].—This is a root brought from Columbo, a town in the island of Ceylon, from whence it takes its name; but we are not yet acquainted with the vegetable of which it is a part. It is brought to us cut in roundish pieces, about an inch long, and sometimes two inches thick; covered with a thickish rough brown bark: the parenchyma slightly solid, appearing, after a transverse section, marked with a large central disk, brown streaks, and yellow points. The smell is weakly aromatic, not disagreeable; the taste bitter, and somewhat acrid; chewed it softens and almost dissolves, tinging the saliva yellowish. By keeping, it is very apt to be worm-eaten; and its bitterness diminished.

The columbo root has long been a medicine in great repute among the natives of the countries which produce it, in disorders of the stomach and bowels. It was, however, little known or regarded in this country, till Dr. Percival, in his *Essays Medical and Experimental*, Vol. II. published his observations and experiments on this root, with cases of its efficacy in

various diseases depending on the state of the bile: as the *bilious colic, bilious fevers, diarrhœas, habitual vomitings, dysentery, &c.* Other practitioners have confirmed its utility in these cases. It has been employed in *dyspepsia*, with much advantage: but with regard to its peculiar power of changing the acrimony and correcting the putrescency of the bile, from the experiments which have been made it does not appear to be more powerful than other bitters. Water is not so complete a menstruum as spirits, but to their united action it yields a flavoured extract in very considerable quantity. The dose of the powder, usually given, is from one scruple to two.

MED. VIRT. *Stomachic and Antiseptic.*

PREP. *Powder — Tincture.*

CONESSI: *Nerium antidysentericum* Lin. *Conessi.*

This is the bark of a small tree, growing in Ceylon and Madagascar, and on the Coromandel coast, where it is called *Conessi*. It is blackish outwardly, and covered more or less with a whitish moss or scurf, which should be scraped off. To the taste it is gratefully bitter, and austere. In diarrhœas it is reckoned a specific. ʒss. or more may be taken four times a day, after a vomit has been given. The first day the number of stools is increased without any increase of griping; the second, the colour of the stools is meliorated; and on the third or fourth, the consistence becomes nearly natural; when it makes a cure. It *seldom fails of curing* a recent diarrhœa proceeding from irregularities in diet, without fever; and it is frequently of service in habitual diarrhœas. It is also useful in hæmorrhages; and the root boiled in water makes good fomentations against *inflammatory tumours*; and some say, taken

internally, it is an useful *anthelmintic*.

MED. VIRT. *Antiseptic* and *Tonic*.

CONSOLIDÆ MAJORIS :—
Symphyti officinalis Lin. Comfrey;
the root.

This is a rough hairy plant, growing wild by river-sides and in watery places. The roots are very large, black on the outside; white within, full of a viscid glutinous juice, of no particular taste. They agree in quality with the roots of *althæa*; with this difference, that the mucilage of *consolida* is somewhat stronger-bodied. Many ridiculous histories of the *consolidating* virtues of this plant are related by authors.

MED. VIRT. *Emollient*.

CONTRAYERVA [L. E.] *Dorfenia Contrayerva* Lin. S. P.

This is a knotty root, an inch or two in length, about half an inch thick, of a reddish-brown colour externally, and pale within: long, tough, slender fibres shoot out from all sides of it, which are generally loaded with small round knots. This root is of a peculiar kind of aromatic smell, and a somewhat astringent, warm, bitterish taste, with a light and sweetish kind of acrimony when long chewed: the fibres have little taste or smell; the tuberous part therefore should be alone chosen. *Contrayerva* is one of the mildest of those substances called *alexipharmacs*: it is indisputably a *good and useful diaphoretic*, and may be safely given in much larger doses than the common practice is accustomed to exhibit it. Its virtues are extracted both by water and rectified spirit, and do not arise in evaporation with either: the spirituous tincture and extract taste stronger of the root than the aqueous ones.

MED. VIRT. *Diaphoretic* — *Stimulant*.

PREP. *Pulv. Contrayerva. et compositus.*

CORALLIUM RUBRUM :—
Isis nobilis Lin. S. P. Red coral [L.]

This is also a marine production, of the same nature with *coralline*. It cannot reasonably be looked upon in any other light than as a mere absorbent; as such it enters the officinal crabs' claw powder, and is sometimes in practice directed alone.

MED. VIRT. *Absorbent*.

CORIANDRI semen : *Coriandri sativi* Lin. Coriander; the seed [L. E.]

Coriander is an umbelliferous plant, differing from all the others of that class in producing *spherical* seeds. These, when fresh, have a strong disagreeable smell, which improves by drying, and becomes sufficiently grateful; they are recommended as *carminative* and *stomachic*. Infused along with senna, they more powerfully correct the odour and taste than any other aromatic; and are equally powerful in obviating the griping that senna is very apt to produce.

MED. VIRT. *Carminative* — *Stomachic*.

CORNU CERVI. The stag or hart's horns [E.]

Many extraordinary virtues have been attributed to these horns, and to all the parts of the animal in general; but experience gives no countenance to them; nor do they seem to have any other foundation than the great timidity of the hart, the annual renewal of his horns, and an opinion of his extraordinary longevity; from these circumstances it was inferred, that all the parts of him must be proper for intimidating the enraged *Archeus*, renewing health and strength, and prolonging life.

The horns, boiled in water, give an emollient nutritious *jelly* [E.]

Burnt to whiteness, they yield an *absorbent earth*, purer from gelatinous matter than the natural testaceous absorbents, but which appears to be weaker in its absorbent power. This earth is employed in the officinal white decoction.

MED. VIRT. *Emollient — Nutritious.*

CRETA [L. E.] White chalk.

This is a pure alkaline earth, totally soluble in vinegar and the lighter acids, so as to destroy every sensible mark of their acidity. This earth is one of the most useful of the absorbents, and is to be looked upon simply as such; the astringent virtues which some attribute to it have no foundation, unless so far as the earth is satiated with acid, with which it composes a saline concrete manifestly subastringent. The creta, like the other testacea, corrects the acidities, and may be used in large quantities; they sometimes seem to be of service in diarrhoeas, merely from correcting acidity, which, being mixed with the bile, occasioned the disease—not from any astringent power.

MED. VIRT. *Absorbent.*

CROCUS; *Crocus sativus* C. B. Lin. S. P. Saffron; the chives or fleshy capillaments growing at the end of the pistil of the flower, carefully picked and pressed together into cakes [L. E.]

There are three sorts of saffron met with in the shops, two of which are brought from abroad, the other is the produce of our own country; this last is greatly superior to the other two, from which it may be distinguished by its blades being broader. When in perfection, it is of a fiery orange-red colour, and yields a deep yellow tincture: it should be chosen fresh, not above a year old, in close cakes, neither dry, nor yet very moist, tough and firm in tearing, of the

same colour within as without, and of a strong, acrid, diffusive smell.

Saffron is a very elegant and useful aromatic: besides the virtues which it has in common with all the bodies of that class, it remarkably *exhilarates, raises the spirits, and is accounted one of the highest cordials*; taken in large doses, it is said to occasion immoderate mirth, involuntary laughter, and the ill effects which follow from the abuse of spirituous liquors. This medicine is particularly serviceable in *hysterical depressions* proceeding from a cold cause or *obstruction of the uterine secretions*, where other aromatics, even those of the more generous kind, have little effect. Saffron imparts the whole of its virtue and colour to rectified spirit, proof spirit, wine, vinegar, and water: a tincture drawn with vinegar loses greatly of its colour in keeping: the watery and vinous tinctures are apt to grow sour, and then lose their colour also; that made in pure spirit keeps in perfection for many years.

Notwithstanding the great power attributed to this medicine by many writers, from the experiments carefully made by later practitioners it has not appeared to be of any consequence. Dr. Cullen says, in two instances he thought it manifested some power as an emmenagogue: but though tried in many other cases in large doses, it had disappointed his expectations. In several hysterical cases it has been given to the extent of half an ounce a day, without producing any sensible effect; so that now it has almost fallen into disuse except as a colouring ingredient.

CUBEBAE: *Piper Cubeba* Lin. Suppl. P. Cubebs [L. E.]

Cubebs are a fruit brought from the East Indies. This fruit has a great resemblance to pepper. The principal difference distinguishable

by the eye, is, that each cubeb is furnished with a long slender stalk (whence they are called by some *piper caudatum*). In aromatic warmth and pungency, cubebs are far inferior to pepper; but their odour and flavour are more agreeable than either of the peppers; and they make a pleasanter ingredient in the *vinum amarum* than either the pepper or ginger.

MED. VIRT. *Aromatic and Stimulant.*

CUCUMERIS HORTENSIS
femen. Cucumis sativus Lin. Garden cucumbers; the seeds.

These are in the number of the four greater cold seeds; they are less apt to grow rancid in keeping than the others of that class.

The cucumber, though not very nutrient, still makes a considerable part of the aliment of persons in warm climates and seasons; and its aqueous, cooling, and acefcent quality, renders it a very pleasant summer aliment. The firmness however of its texture occasions it often to be retained long in the stomach; it is therefore properly accompanied with some of the condiments.

MED. VIRT. The fruit *diluent*—SEED *refrigerant*.

CUCUMERIS AGRESTIS
fructus. Momordica Elaterii Lin. Wild cucumber; the fruit [*L. E.*]

This plant, found wild in foreign countries, is, with us, cultivated in gardens. Its principal botanic difference from the former is the smallness of its fruit, which is no bigger than a Spanish olive: when ripe, it bursts on a light touch, and sheds its seeds with violence, and hence was named by the Greeks *elaterium*. This name was applied likewise to the inspissated juice of the fruit, the only preparation of the plant made use of in medicine. (See the third Part, under the term **ELATERIUM**.) Ela-

terium is a strong *cathartic*, and very often operates also upwards. Two or three grains are accounted in most cases a sufficient dose. Simon Paulli relates some instances of the good effects of this purgative in dropfies; but cautious practitioners have not recourse to it till after milder medicines have proved ineffectual; to which caution we heartily subscribe. Medicines, indeed, in general, which act with violence in a small dose, require the utmost skill to manage them with any tolerable degree of safety: to which may be added, that the various manners of making these kinds of preparations, as practised by different hands, must needs vary their power; though it has been given amongst modern practitioners with success in some obstinate hydropic cases. Exhibited in small doses of half a grain, and repeated at short intervals, it produces its effects; it in general acts moderately: some give it in doses to adults of one or two grains, successfully sometimes: some unite it in small doses with other medicines to promote urine.

MED. VIRT. *Strong Cathartic.*

PREP. *Inspissated Juice.*

CUCURBITÆ *femen. Cucurbita lagenaria Lin.* The gourd; its seeds.

These are in the number of the four greater cold seeds. They unite with water by trituration into an emulsion, and yield to the press a soft insipid oil, and possess the general virtues of unctuous substances.

MED. VIRT. *Refrigerating.*

CUPRUM [*L. E.*] *Cuprum nativum Lin.* Copper.

The preparations of copper are violently emetic, and therefore very rarely exhibited internally. Some have ventured upon a solution of a grain or two of the metal in vegetable acids, and observe, that it

acts almost as soon as received into the stomach, so as to be of good use for occasioning poisonous substances that have been swallowed, to be immediately thrown up again. Boerhaave recommends a *saturated solution of this metal in volatile alkaline spirits*, as a medicine of great service in disorders proceeding from an acid, weak, cold, phlegmatic cause: if three drops of this tincture be taken every morning with a glass of mead, and the dose doubled every day to twenty-four drops, it proves (he says) *aperient, attenuating, warming, and diuretic*: he assures us, that by these means he cured a confirmed ascites, and that the urine ran out as from an open pipe; but at the same time acknowledges, that, upon trying the same medicine on others, it failed. He likewise recommends other preparations of copper, as of wonderful efficacy in certain kinds of ill habits, weakness of the stomach, &c. but we cannot think the internal use of this metal commendable, or even safe. Physicians in general seem to be agreed, that it has really a virulent quality; and too many examples are met with of fatal consequences ensuing upon eating food that had been drest in copper vessels not well cleaned from the rust which they had contracted by lying in the air.

Great care ought to be taken that acid liquors, or even water designed for internal use, be not suffered to stand long in vessels made of copper: otherwise they will dissolve so much of the metal as will give them disagreeable qualities. Hence in the distillation of simple waters with copper stills, the last runnings, which are manifestly acid, have frequently proved emetic. It is remarkable, that whilst weak acid liquors are kept boiling in copper vessels, they do not seem to dissolve any of the

metal; but if suffered to remain in them for the same length of time without boiling, they become notably impregnated with the copper. Hence the confectioners, by skilful management, prepare the most acid syrups in copper vessels without giving them any ill taste from the metal.

The preparations of copper which are in use, are the acetated copper, or verdigris; the vitriolum cœruleum, or blue vitriol; and cuprum ammoniacum. The first is chiefly used in external applications; the two latter internally, beginning with very small doses, and increasing them gradually, till they create a slight degree of nausea upon the stomach; a quarter of a grain twice a day, which may be increased progressively to five: these have been supposed to be of service by their tonic and astringent powers in *hysteria* and *epilepsy*; but the cuprum ammoniacum is allowed to be the mildest medicine. Should the medicine not shew any good effect in the course of one month, it will be prudent to desist, and only give it some days before the expected accession of the paroxysm.

Blue vitriol is also given as an emetic in incipient phthisis, with a view of resolving tubercles.

Verdigris, from its stimulant and escharotic powers, has been long applied for the *cleansing of foul ulcers*, and bringing them to a discharge of laudable pus. A weak solution of verdigris has been used for *restraining inflammation of the eyes*; but a great deal of nicety is required in the management, to avoid its becoming too irritative.

MED. VIRT. *Escharotic* — *Tonic* — *Astringent*.

PREP. *Verdigris* — *blue Vitriol* — *ammoniacal Copper*.

CURCUMA [L. E.] *Curcuma longa* Lin. Turmeric.

Turmeric is a root brought from

the East Indies. It is internally of a deep lively yellow, or saffron-colour, which it readily imparts to watery liquors. It has an agreeable, weak smell, and a bitterish somewhat warm taste. Turmeric is esteemed *aperient* and *emmenagogue*, and of *singular efficacy in the jaundice*. It tinges the urine of a saffron-colour.

MED. VIRT. *Aromatic* — *Aperient* — *Emmenagogue*.

CURSUTÆ radix: *Gentiana purpurea* Lin. [E.]

This is a foreign root, which has been used by some practitioners at Edinburgh for more than forty years. It is a strong bitter, has very much the appearance and taste of gentian; and in no degree superior, though by some it is used in *dyspepsia*; Dr. Home, in his list of the materia medica, styles it *Gentiana lutea sylvestris*; while he terms the common gentian, *Gentiana lutea sativa*. No botanic author, however, makes this distinction; nor can the name of cursuta be met with in any writer the editor has consulted.

MED. VIRT. *Stomachic*.

CYDONIA MALA, *eorumque semina*: *Pyrus Cydonia* Lin. The quince-tree; the fruit and its seeds [L.]

Quinces have a very austere acid taste: taken in small quantity, they are supposed to *restrain vomiting*, and *alvine fluxes*; and more liberally, to *loosen the belly*. The seeds abound with a mucilaginous substance, of no particular taste, which they readily impart to watery liquors: an ounce will render three pints of water thick and ropy like the white of an egg.

MED. VIRT. *FRUIT Stomachic* and *Corroborant* — *SEEDS Emollient*.

PREP. *A mucilage from the Seeds*.

CYMINI semen: *Cumini Cymini* Lin. Cummin; the seeds. [L. E.]

This is an umbelliferous plant,

in appearance resembling fennel, but much smaller; the seeds are brought chiefly from Sicily and Malta. Cummin seeds have a bitterish warm taste, accompanied with an aromatic flavour, not of the most agreeable kind. They are accounted good *carminatives*, but not very often made use of.

MED. VIRT. *Aromatic* — *Stimulant*.

CYNOSBATI fructus: *Rosa canina* Lin. The wild briar, dog rose, or hip tree; its fruit [L.]

This bush grows wild in hedges throughout England. The flowers have a pleasant smell; but so weak, that Parkinson and others have named the plant *rosa sylvestris inodora*: a water distilled from them smells agreeably. The fruit or hips contain a sourish sweetish pulp; with a rough prickly matter inclosing the seeds, from which the pulp ought to be carefully separated before it is taken internally. The Wirtemberg college observes, that from a neglect of this caution, the pulp of hips sometimes occasions a pruritus, and uneasiness about the anus; and I have known the conserve of it to excite violent vomiting.

This possesses no material qualities that give it any right to be introduced either into diet or medicine; and the conserve is kept merely to give form to other medicines.

CYPERI LONGI Lin. radix: Long cyperus; the root.

This is a plant of the graminifolious kind; it is sometimes found wild, in marshy places in England; the roots have been generally brought to us from Italy. This root is long, slender, crooked, and full of knots: outwardly of a dark brown, or blackish colour, inwardly whitish; of an aromatic smell, and an agreeable warm taste: both the taste and smell are improved by

moderate exsiccation. *Cyperus* is accounted a good stomachic and carminative, but at present very little regarded.

DACTYLI: fructus. Phœnicis dactylifera Lin.

Dates, a half-dried imported fruit, about the shape of an acorn, but generally larger, consisting of a sweet pulpy part and a hard stone: the best are brought from Tunis. They were formerly used in peccatorial decoctions, and supposed, besides their emollient and incrassating virtue, to have a slight astringency.

MED. VIRT. *Emollient and slightly Astringent.*

DAUCI CRETICI semen: Athamantæ Cretensis Lin. Candy carrot, or carrot of Crete; the seeds.

This is an umbelliferous plant, growing wild in the Levant, and the warmer parts of Europe. The seeds, which are brought from Crete, have a warm biting taste, and rather an aromatic smell. They are carminative, and said to be diuretic, but at present little used.

MED. VIRT. *Aromatic.*

DAUCI SYLVESTRIS semen: Dauci carotæ Lin. Wild carrot; the seed [L. E.]

This is common in pasture grounds and fallow fields throughout England. The seeds possess the virtues of those of the *daucus Creticus*, in an inferior degree: and have often supplied their place in the shops; and been themselves supplied by the seeds of the garden carrot: these last are, in warmth and flavour, the weakest of the three: the seeds of the Candy carrot are much the strongest. They are used in cachectic and scorbutic disorders, and in dropsy.

MED. VIRT. *Aromatic.*

DENTIS LEONIS sive Taraxaci, radix et folia: Leontodon Ta-

raxacum Lin. Dandelion; the root and herb [L. E.]

This plant is common in fields, and uncultivated places; it has several narrow dentated leaves lying on the ground, with a slender naked stalk sustaining a yellow flower. The root, leaves, and stalk, contain a bitter milky juice: they promise to be of use as *aferient* and *detergent medicines*; particularly in the jaundice and other hepatic obstructions, and have sometimes been directed in this intention with success. Boerhaave esteems them capable, if duly continued, of *resolving almost all kinds of coagulations*, and opening very obstinate obstructions of the viscera.

Indeed we have various proofs of the good effects of dandelion related by Van SWIETEN, BERGIUS, MURRAY, ZIMMERMAN, HALLER, and other authors of great respectability, not only in the complaints recited above, but also in *dropsy, pulmonary tubercles, in impetigo, scabies*, and other cutaneous disorders, likewise in *stones in the kidneys*. It has been given in doses of from $\mathfrak{z}\text{ij}$ to $\mathfrak{z}\text{iv}$. of the expressed juice, three or four times a day, or a strong decoction of the roots. The leaves, roots, flower-stalks, and juice of this plant, have all been separately employed for medical purposes, and seem rather to differ in degrees of strength, than any essential property. It has been given in broths, whey, mixed with cream of tartar, and joined with grass roots; and, taken every day for weeks, or months, has been said to succeed often in *resolving a hardness of the liver*, where other remedies have failed. The plant should always be used fresh; the extract appears to lose much of its strength by keeping; though, made in a soft form, and given fresh from two to four tea spoonfulls every morning,

it has been extolled for *obstructed viscera*, *jaundice*, and *costiveness*, and for *tubercles of the lungs*.

DICTAMNI CRETICI folia: *Origanum Dictamnus* Lin. Dittany of Crete.

This is a kind of *origanum*, said to grow plentifully in the island of Candy, in Dalmatia, and in the Morea: it has been found hardy enough to bear the ordinary winters of our own climate. The leaves, which are the only part in use with us, come from Italy. The best sort are well covered over with a thick white down, and now and then intermix with purplish flowers. In smell and taste, they somewhat resemble lemon-thyme; but have more of an aromatic flavour, as well as a greater degree of pungency; when fresh, they yield a considerable quantity of an excellent essential oil.

DIGITALIS folia: *Digitalis purpurea* Lin. Fox-glove; the leaves [L. E.]

This grows wild in woods, on uncultivated heaths, and under hedges; the leaves are oblong, acuminate, and somewhat hairy, with a thick, angular, hollow stalk, on which numerous purple tubulous flowers, resembling the finger of a glove, hang downwards in a row along one side; each on a short pedicle. It flowers in May and June.

The leaves are to be gathered after the flowering stem has shot up, and about the time the blossoms are coming forth; the leaves have a bitterish nauseous taste, and been strongly recommended, externally against *scrophulous tumours*; and likewise internally, in *epileptic disorders*; what service they may be capable of doing in these cases, we have no experience. Several examples are mentioned by medical writers of their occasioning *violent vomiting*, *hypercatharses*, and *disordering the whole constitution*; info-

much that Boerhaave accounts them poisonous. It has lately been much recommended in dropical and asthmatic cases, and is considered as one of our most certain diuretics. It is given in decoction, infusion, and in powder: of the latter, from $\frac{1}{2}$ of a grain to two grains has been given for a dose with three grains of aromatic powder, twice a day. The infusion is to be made with the dried leaves, one dram to half a pint of boiling water, to stand four hours, strained, and mixed with one ounce of spirit of nutmegs, of which one or two table spoonfulls may be taken twice a day; one grain of calomel once or twice a day has been successfully conjoined. In the administration, great caution is requisite, as it has been found very possible to pour in an injurious quantity of this medicine before any of the signals for discontinuance have appeared. It therefore should be given in small doses, and at distant periods, and the use to be stopped on the appearance of its affecting the pulse, stomach, kidneys, or the bowels.

MED. VIRT. *Emetic*—*Cathartic*—*Diuretic*.

PREP. *Decoction*—*Infusion*—*Powder*.

DOLICHOS Ph. Edinb. *Dolichos pruriens* Lin. Couhage, or Cow-Itch. *Cadjuet*, *Bengalis* [E.]

This is an herbaceous plant, of the papilionaceous tribe, growing in the East and West Indies. It bears pods densely covered with sharp hairs, which have the property of penetrating the skin, and causing a most troublesome itching. In the West Indies, the cow-itch is given internally, as an *efficacious anthelmintic*. The most particular account of the use of this remedy is contained in Mr. Bancroft's History of Guinea, and it is confirmed by a letter in the Medical Commentaries, vol. II.

The manner in which it is employed, is to mix the hairy matter scraped off from the pods, with syrup or melasses, into a thin electuary, of which a tea spoonful is given to a child two or three years old, and double the quantity to an adult. The dose is exhibited in the morning, fasting, for three successive days, after which a dose of rhubarb is given. The worms are said to appear with the second or third dose; and by means of a purge in some cases the stools are said to consist entirely of worms; and in cases of lumbrici it is said also to produce a safe and effectual cure. Its effects are represented as remarkably powerful and certain, without the least dangerous consequence.

Mr. Kerr has given a botanical description of the plant in the Medical Commentaries, vol. II.

DORONICI GERMANICI,
seu Arnica, flores: Arnicae montanae
Lin. S. P. German leopardbane; the leaves and root [*L. E.*]

This acrid and bitter plant grows in various mountainous parts of Europe; that, however, from Bohemia and Saxony is preferred, on account of its stronger smell.

It has long been in reputation in Germany, as a *resolvent* of *coagulated blood*, and generally given after contusions and internal bleedings; from its supposed good effects in which cases, it has been called *panacea Lapforum*. Formerly an infusion or decoction in beer, of 3j or ʒij of the herb alone, or with the flowers, was employed: of late, the flowers have been preferred. Both are sometimes *diuretic*, sometimes *diaphoretic*, and very often they occasion nausea, anxiety, and vomiting. The flowers are earnestly recommended by Collin in *paralytic* and *spasmodic cases*: he gave an infusion of 3j, to ʒiij, to a pint of water; or 3j to ʒij of the powder

mixed with honey into an electuary, either of which was the quantity for a day.

A strong infusion of these flowers was the popular remedy for intermittents in the district of Lutia. Dr. Mangor, of Wiburg, tried them in two cases; an infusion of half a manipule in half a pint of boiling small beer, was taken warm two hours before the paroxysm by each patient; one of whom was cured by the first dose, the other by the second. It vomited both smartly.

The root has been of late employed in *dysentery*, either alone or joined with other remedies.

The *arnica* has also been recommended in *paralytic cases*, and also where a *loss or diminution of sense* arises from an *affection of the nerves*, as in instances of *amaurosis*; in these it has chiefly been employed in infusion. From 3j to ʒss of the flowers has been infused in ʒbj of boiling water and taken in different doses in the course of the day.

MED. VIRT. *Antispasmodic* — *Emetic* — and *Cathartic*.

PREP. *Infusion* — *Electuary*.

DULCAMARA, seu Amara-
dulcis: Solanum dulcamara Lin. Stipites, the stalks; Bittersweet, or woody nightshade [*E.*]

This plant grows wild in moist hedges, and climbs on the bushes with woody brittle stalks. The taste of the twigs and roots, 'as the name of the plant expresses, is both bitter and sweet; the bitterness being first perceived, and the sweetness afterwards. They are commended as *deobstruents* for resolving coagulated blood, &c. and are said to occasion generally some considerable evacuation by sweat, urine, or stool, particularly the last.

They have sometimes been given with success in the *rheumatism*, but do not always answer the purpose. They have also been recommended

in some cutaneous diseases of the herpetic kind.

MED. VIRT. Diaphoretic—Attenuant—Cathartic.

PREP. Infusion.

EBULI folia, cortex, radix: *Sambuci ebuli* Lin. Dwarf elder, or danelwort; the root, bark, and leaves.

This plant grows wild in some counties of England; but about London is rarely met with, unless in gardens: the eye distinguishes little difference betwixt it and the elder tree, except in the size; the elder being a pretty large tree, and the dwarf elder only an herb three or four feet high. The leaves, roots, and bark of *ebulus* have a nauseous, sharp, bitter taste, and a kind of acrid ungrateful smell: they are all *strong cathartics*, and as such are recommended in dropsies, and other cases where medicines of that kind are indicated. The bark of the root is said to be strongest; the leaves the weakest. But they are all too churlish medicines for general use; they sometimes evacuate violently upwards, almost always nauseate the stomach, and occasion great uneasiness of the bowels. By boiling they become (like the other drastics) milder, and more safe in operation. Fernelius relates, that by long coction they entirely lose their purgative virtue. The berries of this plant are likewise purgative, but less virulent than the other parts. A rob prepared from them may be given to the quantity of an ounce, as a *cathartic*; and in smaller doses as an *aperient* and *deobstruent* in chronic disorders; in this last intention, it is said by Haller to be frequently used in Switzerland, in the dose of a dram.

MED. VIRT. *Strongly Cathartic.*

PREP. Rob from the berries.

ELEMI: *Amyris Elemifera* Lin.
Sp. P. Gum Elemi. [L.]

This is a resin brought from the Spanish West Indies, and sometimes from the East Indies, in long roundish cakes, generally wrapped up in flag leaves. The best sort is softish, somewhat transparent, of a pale whitish yellow colour, inclining a little to green, of a strong not unpleasant smell. It almost totally dissolves in pure spirit, and sends over some part of its fragrance along with this menstruum in distillation: distilled with water, it yields a considerable quantity of a pale coloured, thin, fragrant, essential oil. This resin gives name to one of the officinal unguents, and is at present scarce any otherwise made use of; it has been much employed in *promoting the digestion and detersion of wounds*, and seldom for any other purpose; though the green is certainly preferable, for internal purposes, to some others which are held in greater esteem.

MED. VIRT. *Stimulant.*

ELEUTHERIÆ, seu *Cascarilla* cortex [L. E.] *Crotonis Cascarilla* Lin. Cascarilla; a bark said to be imported into Europe from one of the Bahama islands called *Elathéria*, in curled pieces, or rolled up into short quills, about an inch in width, pretty much resembling in appearance the *Peruvianus cortex*, but of a paler brown colour on the inside, less compact, and more friable.

Its taste is more bitter, yet less disagreeable and less rough, than that of the Peruvian bark; with a considerably greater share of aromatic pungency and heat: the thin outward skin, which is of a whitish colour, has no taste. It is easily inflammable, and yields, while burning, a very fragrant smell: this peculiar property distinguishes the *eleutheria* from all other known barks.

Stifferus seems to have been the first that employed the *cortex eleu-*

theria as a medicine in Europe; he relates (in his *Art. laborat. chym.* published in the year 1693) that he received this aromatic bark from England; and that, some time after, it was sold at Brunswick for Peruvian bark: that a tincture of it in alkalized vinous spirits, or dulcified alkaline ones, proved *carminative* and *diuretic*, and did considerable service in *arthritic*, *scorbutic*, and *calculous cases*; and that if taken immediately after meals, it affected the head a little. Eleutheria was soon after employed by Apinus in an epidemic fever which raged in some parts of Norway in 1694 and 1695: this disease, which at first had the appearance of an ordinary intermittent, at length was accompanied with petechial spots. The common alexipharmacs and sudorifics were found ineffectual: but the powder or extract of this bark, joined with them, proved successful, even after petechiæ had come forth: *dysenteries succeeding the fever were removed by the same medicine*. During the use of the eleutheria, the patient generally sweated plentifully, without loss of strength, or other inconvenience: the belly was likewise kept open; those who did not sweat, had three or four stools a day: where the menstrual or hæmorrhoidal fluxes were suppressed at the beginning of the disorder, they generally, upon the use of this medicine, re-appeared. Among the Germans, the eleutheria is at present in very great esteem, and frequently employed *against common intermittents*, in preference to the Peruvian bark, as being less subject to some inconveniences which the latter, on account of its greater astringency, is apt to occasion: it is also given, with success, in *flatulent colics*, *internal hæmorrhages*, *dysenteries*, the *diarrhœa of acute fevers*, and other simi-

lar disorders. The gentlemen of the French academy found this bark of excellent service in an *epidemic dysentery* in the year 1719: in which ipecacuanha proved ineffectual. M. Boulduc observed, that this latter left a lowness and weakness of stomach, which continued for a long time, whilst eleutheria soon raised the strength, and promoted appetite. Among us the use of this bark is not yet so general as it seems to deserve: infusions of it are sometimes directed for promoting expectoration. It is given in form of tincture, powder, and extract. The dose of the former is from one to three drams repeatedly in any convenient vehicle; and of the two latter, from ten to thirty grains.

MED. VIRT. Tonic — Stomachic.

PREP. Tincture — Powder — Extract.

ENDIVIÆ *radix, folia*: *Cichorii endiviæ* Lin. Endive: the roots and leaves [E.]

Endive is raised in gardens for culinary use. It is a gentle cooler and aperient, nearly of the same quality with the *cichorium*. The seeds are ranked among the four lesser cold seeds.

ENULÆ CAMPANÆ: *Inula helenium* Lin. S. P. Elecampane; the root [L.]

This is a very large downy plant, sometimes found wild in moist rich soils. The root, especially when dry, has an agreeable aromatic smell: its taste, on first chewing, is glutinous, and as it were somewhat rancid; in a little time it discovers an aromatic bitterness, which by degrees becomes considerably acrid and pungent. Elecampane root is principally recommended for *promoting expectoration in humoral asthmas and coughs*: liberally taken, it is said to *excite urine*, and *loosen the belly*. In some parts of Germany, large quantities of

this root are candied, and used as a stomachic, for strengthening the tone of the viscera in general, and for attenuating tenacious juices. Spirituous liquors extract its virtues in greater perfection than watery ones: the former scarce elevate any thing in distillation: with the latter an essential oil arises, which concretes into white flakes: this possesses at first the flavour of the elecampane, but is very apt to lose it in keeping. Its dose is from twenty to sixty grains powdered.

MED. VIRT. *Aperient and Diuretic.*

PREP. *Candied — Powder.*

ERUCÆ semen: Brassicæ Erucæ Lin. Rocket; the seeds.

This was formerly much cultivated in gardens for medicinal use, and for sallads, but is at present less common. In appearance, it resembles mustard, but is easily distinguishable by the smoothness of its leaves, and its disagreeable smell. The seeds have a pungent taste, of the mustard kind, but weaker: they have long been celebrated as aphrodisiacs, and may, probably, have in some cases a title to this virtue, in common with other acrid plants.

MED. VIRT. *Stimulant.*

ERYNGII radix: Eryngii maritimi C. B. Lin. S. P. Eryngo, or sea holly; the root [L. E.]

This plant grows plentifully on some of our sandy and gravelly shores; the roots are slender, and very long; of a pleasant sweetish taste, which, on chewing them for some time, is followed by a light degree of aromatic warmth and acrimony. They are considered as aperient and diuretic, and have also been celebrated as aphrodisiac: their virtues however are too weak to admit them under the head of medicines. The candied root is ordered to be kept in the shops.

MED. VIRT. *Aperient—Diuretic.*

ERYSIMI folia: Erysimi officinalis Lin. Hedge mustard; the leaves.

This is a low hairy plant, common in waste places, and by waysides. The leaves are said to promote expectoration, excite urine, and the other fluid secretions, attenuate and dissolve viscid juices, &c. This they are supposed to perform by an acrimonious stimulating quality; but the taste discovers in them only an herbaceous softness void of acrimony: the seeds indeed are considerably pungent, and the roots in some small degree. It has been in estimation for the curing of hoarseness, which it is supposed to effect by a gentle stimulus on the glands of the fauces. The juice should be made use of mixed with an equal part of sugar, or honey; two or three spoonfulls of which may be taken occasionally, and gradually swallowed: in its stead, horse-radish may be used, which often produces the same effect.—See RAPHANUS RUSTICANUS.

MED. VIRT. *Stimulant—Attenuant—Diuretic.*

PREP. *Juice.*

EUPATORII CANNABINI Lin. folia: Hemp agrimony, water agrimony; or water hemp; the leaves.

This plant is found wild by the sides of rivers and ditches. It has an acrid smell, and a very bitter taste, with a considerable share of pungency. The leaves are greatly recommended for strengthening the tone of the viscera, and as an aperient; and said to have excellent effects in the dropsy, jaundice, cachexies, and scorbutic disorders. Boerhaave informs us, that this is the common medicine of the turf-diggers in Holland, against scurvy, foul ulcers, and swellings in the feet, to which they are subject. The root of this plant is said to operate as a strong cathartic.

MED. VIRT. *Attenuant* — *Corroborant*.

EUPHORBIIUM. *Euphorbia officinarum* Lin. A gummy resin exuding from a large oriental shrub. It is brought to us immediately from Barbary, in drops of an irregular form; some of which, upon being broken, are found to contain little thorns, small twigs, flowers, and other vegetable matters; others are hollow, without any thing in their cavity: the tears in general are of a pale yellow colour externally, somewhat white within: they easily break betwixt the fingers. Lightly applied to the tongue, they affect it with a very sharp biting taste: and, upon being held for some time in the mouth, prove vehemently acrimonious, inflaming, and exulcerating the fauces, &c. Euphorbium is extremely troublesome to pulverise; the finer part of the powder, which flies off, affecting the head in a violent manner. The acrimony is so great as to render it absolutely unfit for any internal use; and we think, with Hoffman and others, that it ought to be expunged from the catalogue of internal medicines.

FERRUM et CHALYBS [L. E.]
Iron and steel [L. E.]

Steel is accounted less proper for medicinal use than the softer iron, as being acted upon with more difficulty by the animal juices and the common menstrua: iron dissolves readily in all acids, and rusts freely in the air, especially if occasionally moistened with water; steel requires a longer time for its solution, and does not rust so easily.

The general virtues of these metals, and the several preparations of them, are, to *constringe the fibres, to quicken the circulation, to promote the deficient secretions in the remoter*

parts, and at the same time repress inordinate discharges into the intestinal tube. After the use of them, if they take effect, the pulse is very sensibly raised; the colour of the face, though before pale, changes to a florid red; the alvine, urinary, and cuticular excretions, are increased. *Nidorous eructations, and the faces voided of a black colour, are marks of their taking due effect.*

An *aperient virtue* is usually attributed to some of the preparations of iron, and an *astringent* to others; but in reality, they all produce the effects both of aperients and astringents, and seem to differ only in degree. Those distinguished by the name of astringent sometimes occasion a very copious discharge of urine, or a diarrhoea; whilst those called aperient frequently stop these evacuations.

Where either a præternatural discharge, or suppression of natural secretions, proceeds from a languor and sluggishness of the fluids, and weakness of the solids, this metal, by increasing the motion of the former, and the strength of the latter, will suppress the flux, or remove the suppression: but where the circulation is already too quick, the solids too tense and rigid, where there is any stricture or spasmodic contraction of the vessels; iron, and all the preparations of it, will aggravate equally both distempers.

Though the different preparations of iron act all in the same manner, yet they are not equally proper in all constitutions. Where acidities abound in the first passages, the crude filings, reduced into a fine powder, prove more serviceable than the most elaborate preparation of them. On the other hand, where there is no acid in the primæ viæ, the metal requires to be previously opened by saline menstrua: hence a solution of iron

in acid liquors has in many cases excellent effects, where (as Boerhaave observes) the more indigestible preparations, as the calces made by fire, have scarce any effect at all. If alkalescent juices be lodged in the stomach, this metal, though given in a liquid form, proves at least useless; for here the acid solvent is absorbed by the alkaline matters which it meets with in the body, so as to leave the iron reduced to an inactive calx.

Chalybeate medicines are likewise supposed to differ, independent of differences in the constitution, according to the nature of the acid united with the metal: vegetable acids superadd a detergent and aperient virtue; combined with the vitriolic, the metal acts in the first passages powerfully as an aperient; whilst the nitrous renders it extremely styptic; and the marine, still more so.

The rust of iron has been found one of the best preparations of iron, as there is generally a prevalent acid in the stomach, especially in cases where it is most likely to be useful, which uniting with the rust forms an active salt, possessed of astringent and tonic powers, upon the exertion of which all the benefit to be derived from chalybeates depends.

The prepared rust may be begun with in doses of five grains, and increased further to as much as the stomach will bear; and if there are aromatics joined with it, its efficacy will be increased.

MED. VIRT. *Astringent and Tonic.*

PREP. See the third part of this Work, under *Preparations of Iron.*

FILICIS MARIS radix: *Polypodii Filicis Maris Lin.* Common male fern; the root [E.]

This vegetable is found growing in every part of Britain in great

abundance on uncultivated ground. The greatest part of the root lies horizontally; it consists of a great number of long blackish fibres, matted together, and issuing from a thick knotty head: it has a great number of appendages placed close to each other in a vertical direction, while a number of small fibres strike downwards. The large root, together with the appendages, are to be reserved. The two ends, however, are to be cut off; the one being too old and spongy; the other, too new and green.

This root has been lately celebrated as an efficacious remedy against the tænia, or tape-worm; and indeed it appears to have been known to the ancients, and used with this view, as it is mentioned by Dioscorides, Theophrastus, and Galen. Notwithstanding which, it had fallen into disrepute, and was neglected, till Madame Nouffer, a surgeon's widow, had acquired much celebrity by employing it as a specific in the cure of this malady. It was exhibited in the following manner: To the patient was given an emollient glyster, and a supper of panada with butter and salt; then in the morning, if *an adult*, while in bed, two or three drams of the powder of male fern recently gathered; if *an infant*, one dram, washed down with water; and two hours after a strong cathartic, composed of calomel and scammony, was exhibited, proportioned to the strength of the patient. Should this not operate in due time, a dose of purging salt was to succeed; and if the worm was not expelled in a few hours, this process at proper intervals was to be repeated. That this mode has succeeded there can be no doubt, because it has been proved in several cases: but whether the fern-root or the cathartic produces

the effect is uncertain; because, in several trials which have been made with the fern root in Scotland, it has been found that the stomach can bear considerable quantities, without the smallest inconvenience, and when given by itself it had no sensible effects. In Germany, however, it has been said, that the tænia has been expelled by the fern-root repeatedly exhibited, without the assistance of any other medicine.

MED. VIRT. *Anthelmintic* and *Deobstruent*.

PREP. *Powder*.

FILIPENDULÆ radix: *Spirææ filipendulæ* Lin. Dropwort; the root.

This plant grows wild in fields and chalky grounds: the root consists of a number of tubercles, fastened together by slender strings; its taste is rough and bitterish, with a slight degree of pungency. These qualities point out its use in a flaccid state of the vessels, and in a sluggishness of the juices: the natural evacuations are, in some measure, restrained or promoted by it, where the excess or deficiency proceeds from this cause. Hence some have recommended it as an *astringent* in dysenteries, immoderate *sterine fluors*, &c. others as a *diuretic*; and others as an *aperient* and *deobstruent* in *scrophulous habits*. At present it is wholly disregarded.

MED. VIRT. *Astringent* — *Corroborant*.

FLAMMULA JOVIS *Stoëck*.
Ph. Edinb. Clematis recta Lin.
Upright Virgin's Bower [E.]

This species of *clematis*, distinguished by its pinnated oval leaves and erect stalks, grows wild in thickets in the southern parts of France and Germany. Its leaves and flowers are extremely acrid; the former, when fresh, raising blisters on the part to which they are applied.

The *flammula Jovis* is one of the new medicines introduced by Dr. Stoëck. He has published several cases of its efficacy in *cancerous*, *venereal*, and other *malignant ulcers*, *obstinate pains of the head and bones*, *inveterate itch*, and other diseases proceeding from peculiar *acrimony*. It was used internally, in infusion of the leaves, two or three drams to a pint of boiling water; four ounces three times a day; and the powder was sprinkled on the ulcers externally, where it was found to act as a most excellent *escharotic* and *detergent*. The medicine is said to have proved *diuretic* to some, and *sudorific* to others, but rarely to have moved the belly. Small doses, of only half a grain of the extract, and half a dram of the dried leaves in infusion, were at first exhibited, which were gradually increased.

MED. VIRT. *Strongly Acrid* and *Stimulant*.

PREP. *Infusion* — *Powder* — *Extract*.

FCENICULI DULCIS radix,
semen: *Anethi Fœniculi varietas* Lin.
S. P. Common fennel; the roots [E. L.]

The sweet fennel is smaller in all its parts than the common, except the seeds, which are considerably larger. The seeds of the two sorts differ likewise in shape and colour: those of the common are roundish, oblong, flattish on one side, and protuberant on the other, of a dark almost blackish colour; those of the sweet are longer, narrower, not so flat, generally crooked, and of a whitish or pale yellowish colour. Both sorts are cultivated in our gardens: the common is a perennial plant: the sweet perishes after it has given seed; nor do its seeds come to such perfection in this climate as those which we receive from Germany.

The seeds of both the fennels

have an aromatic smell, and a moderately warm, pungent taste: those of the *feniculum dulce* are in flavour most agreeable, and have also a considerable degree of sweetness: hence our college have directed the use of these only. They are ranked among the four greater hot seeds, and not undeservedly looked upon as good *stomachics* and *carminatives*.

The root is far less warm, but has more of a sweetish taste, than the seeds; it is one of the five roots called openers; and has sometimes been directed in aperient apozems. Boerhaave says, that this root agrees in taste, smell, and medical qualities, with the celebrated *ginseng* of the Chinese; from which, however, it appears to be very considerably different.

The leaves of fennel are weaker than either the roots or seeds, and have very rarely been employed for any medicinal use.

MED. VIRT. *Aromatic* — *Stimulant* — *Carminative*.

PREP. *Distilled Water* — *Essential Oil*.

FÆNI GRÆCI *semen*: *Trigonellæ fenigræci* Lin. Fœnugreek; the seeds [L. E.]

This plant is cultivated chiefly in the southern parts of France, Germany, and in Italy; whence the seeds are brought to us. They are of a yellow colour, a rhomboidal figure; a disagreeable strong smell, and a mucilaginous taste. Their principal use is in cataplasms, fomentations, and the like, and in emollient glysters.

FRAGARIÆ *folia, fructus*: *Fragaria vesca* Lin. The strawberry bush; its leaves and fruit.

The leaves are somewhat styptic, and bitterish; and, hence, may be of some service in *debility* and *laxity of the viscera*; and immoderate secretions, or a suppression of the natural evacuations depending thereon:

they are recommended in *hæmorrhages* and *fluxus*; and likewise as *aperients*, in *suppressions of urine*, *obstructions of the viscera*, in the *jaundice*, &c. The fruit is in general very grateful both to the palate and stomach: like other fruits of the dulco-acid kind, they abate heat, quench thirst, loosen the belly, and promote urine; but do not afford much nourishment. Geoffroy observes, that the urine of those who eat liberally of this fruit, becomes impregnated with its fragrant smell.

MED. VIRT. *Astringent* — *Corroborant* — and *Refrigerant*.

FRAXINELLÆ, *fr. Distamni albi* Lin. *radix*. White or bastard Dittany; the root [E.]

This plant grows wild in the mountainous parts of France, Italy, and Germany; whence the cortical part of the root, dried and rolled up into quills, is sometimes brought to us. This is of a white colour; a weak, not very agreeable smell; and a durable bitter, lightly pungent taste. Though it is not regarded by common practice, nor often kept in the shops, yet it is undoubtedly a medicine of considerable power. It was formerly used as a *stomachic* and *tonic*, and supposed to be efficacious in removing *uterine obstructions* and *destroying worms*; baron Stœreck speaks of its success in *tertian intermittents*, *worms*, and *menstrual suppressions*: the dose, a scruple of the powder twice a day. In *epilepsies*, a tincture, made of two ounces of the fresh root to fourteen of spirits of wine, was successfully prescribed, in doses of from twenty to fifty drops given two or three times a day; and when joined with steel, this root, to *chlorotic patients*, has been of great service.

MED. VIRT. *Stimulant* — *Diaphoretic*.

PREP. *Powder* — *Tincture*.

FRAXINI *cortex et semen*:

Fraxini excelsioris Lin. The ash-tree; its bark and seeds.

The bark of this tree is moderately astringent, and as such has sometimes been made use of; the seeds, which are somewhat acrid, have been employed as aperients. There are so many other medicines more agreeable, and more efficacious for these intentions, that all the parts of the ash tree have long been neglected. It yields volatile and fixed alkali, empyreumatic oil, and earth, when chemically analysed.

MED. VIRT. *Astringent* — *Stimulant*.

FULIGO lignorum combustorum. Wood-foot [E.]

This concrete is of a shining black colour, a disagreeable smell, and an acrid, bitter, nauseous taste. Its chief use is in hysteric cases, in which it is sometimes given in conjunction with the fetid gums. Its virtues are extracted both by watery and spirituous liquors, each of which, if the foot be of a good kind, dissolves about one sixth. Soot is said to differ greatly in quality, according to the wood from which it was produced: the more resinous the wood, the more the foot abounds with oily matter.

MED. VIRT. *Antispasmodic*.

FUMARIÆ folia: *Fumariæ officinalis*. Lin. Fumitory: the leaves [E.]

This is a common weed in shady cultivated grounds, producing spikes of purplish flowers, in May and June. It is very juicy, of a bitter taste, without any remarkable smell. The medical effects of this herb are, to strengthen the tone of the bowels, gently loosen the belly, and promote the urinary and other natural secretions. It is principally recommended in melancholic, scorbutic, and cutaneous disorders; for opening obstructions of the viscera, attenuating and promoting the evacuation of viscid

juices. Frederick Hoffman had a very great opinion of it as a purifier of the blood; and assures us, that in this intention scarce any plant exceeds it. Both watery and spirituous menstrua extract its virtues.

MED. VIRT. *Stimulating*—*Attenuant*—and *Antiscorbutic*.

GALANGÆ MINORIS radix: *Maranta Galanga* Lin. Galangal; a root brought from China.

This root comes to us in pieces scarce an inch long, and not half so thick, full of joints, with several circular rings on the outside; of an aromatic smell, and a bitterish, hot, biting taste. Galangal is a warm stomachic bitter: it has been frequently prescribed in bitter infusions, but the flavour it gives is not agreeable.

MED. VIRT. *Stomachic*.

GALBANUM. *Bubon Galbanum* Lin. S. P. [L. E.]

This is the concrete juice of an African plant of the ferulaceous kind. The juice, as brought to us, is semipellucid, soft, tenacious; of a strong, and, to some, unpleasant smell; and a bitterish warm taste: the better sort is in pale-coloured masses, which, on being opened, appear composed of clear white tears. Geoffroy relates, that a dark greenish oil is to be obtained from this simple by distillation, which, upon repeated rectifications, becomes of an elegant sky-blue colour. The purer sorts of galbanum are said by some to dissolve entirely in wine, vinegar, or water: but these liquors are only partial menstrua with regard to this drug; nor do spirit of wine, or oils, prove more effectual in this respect: the best dissolvent is a mixture of two parts of spirit of wine, and one of water. Galbanum agrees in virtue with gum ammoniacum; but is generally consi-

dered as less efficacious in *asthmas*, and more so in *hysterical complaints*. Dissolved in vinegar, it has been successfully employed in indolent tumours; and, united with common plasters, it promotes suppuration.

MED. VIRT. *Antihysteric* — *Suppurant*.

PREP. *Tincture*—*Pills*—*Plaster*. The tincture is given up to a dram or more in nervous complaints.

GALLÆ [L. E.] Galls.

These are excrescences, in the warmer countries, caused by an insect upon the leaf and tender foot-stalks of the *quercus robur*. The animal within the gall eats its way through; those which have no hole are found to have the insect remaining in them. The best galls come from Aleppo: these are not quite round and smooth like the other sorts, and have several tubercles on the surface.

The Aleppo galls are the strongest, as two of these are equal to three of the other. Their virtues are similar to the oak bark, but possess a greater degree of styptic and astringent power. A mixture of galls with a bitter and aromatic has been proposed as a substitute for the Peruvian bark: and it has been said that by the internal use of galls intermittents have been cured. In painful states of the piles, an ointment made of powdered galls one part, and hog's lard eight parts, has been recommended as an efficacious remedy.

Galls have a very austere styptic taste, without any smell: they are very strong astringents, and as such have been sometimes used both internally and externally, but are not much taken notice of by the present practice.

MED. VIRT. *Astringent*.

PREP. *Ointment* — *Powder* — *Infusion*.

GAMBOGIA [L. E.] Gam-

boge; a solid concrete juice, brought from the East Indies, in large cakes or rolls. The best sort is of a deep yellow or orange colour, and breaks shining and free from dross. It has no smell, and very little taste, unless kept in the mouth for some time; when it impresses a slight sense of acrimony. It immediately communicates to spirit of wine a bright golden colour, and almost entirely dissolves in it, Geoffroy says, except the sixth part: alkaline salts enable water to act upon this substance powerfully as a menstruum: the solution made by their means is somewhat transparent, of a deep blood-red colour, and passes the filtre: the dulcified spirit of sal ammoniac readily and entirely dissolves it, and takes up a considerable quantity; and, what is remarkable, this solution mixes either with water or spirit, without growing turbid.

Gamboge evacuates powerfully both upwards and downwards. Hoffman and some others condemn it as acting with too great violence, and occasioning dangerous hypercatharses: whilst others are of a contrary opinion. Geoffroy seems particularly fond of this medicine, and informs us, that he has frequently given it, from two to four grains, without its proving at all emetic; that from four to eight grains, it both vomits and purges, without violence; that its operation is soon over; and that if given in a liquid form, and sufficiently diluted, it stands not in need of any corrector; that, in the form of a bolus or pill, it is most apt to prove emetic, but very rarely has this effect if joined with *mercurius dulcis*. He nevertheless cautions against its use where the patient cannot easily bear vomiting.

This is considered as a powerful

hydragogue, and often given in drops; though generally united with jalap, and cream of tartar, or with calomel, which admixture renders its operation more easy. Dr. Cullen tried it alone in doses of three or four grains, rubbed down with a little sugar, and repeated every three hours; in this way he found it operate without vomiting or griping; and after three or four such exhibitions a great deal of water was evacuated both by stool and urine.

It has been given with success for the expulsion of the *tænia lata*, in doses, it is said, of fifteen grains, to which was added an equal quantity of vegetable alkali; and if the worm is not expelled in two or three hours, it may be repeated even to the third time with safety and efficacy. It is also asserted that, to delicate constitutions, it has been given even to this extent.

MED. VIRT. *Emetic — Cathartic.*

GENISTÆ folia, semen: Spartii scoparii Lin. Broom; the leaves, flowers, and seeds [*E. L.*]

This is a shrubby plant, with numerous slender, angular, tough twigs; small, somewhat oval leaves, set three on one pedicle, and deep yellow papilionaceous flowers. It is common on heaths and uncultivated sandy ground; and flowers in May. It is to be collected in June.

The leaves and stalks of broom have a nauseous bitter taste, and are accounted *deobstruent* and *diuretic*; they are sometimes *laxative*, and sometimes *excite nausea*. The decoction has often been employed in dropsies: Dr. Mead relates a case in his *Monita et Præcepta Medica*, of an ascites being cured, after the patient had been tapped three times, by a decoction of broom tops and mustard seed; an infusion of the seeds, taken freely, has been

known to produce similar effects. The infusion of broom ashes in Rhenish wine was a favourite medicine of SYDENHAM; and Dr. MONROE has succeeded by giving half a dram of the ashes divided into three doses every day; but the effect of these two rather depends upon the alkaline salt, than the vegetable from whence it was taken.

Dr. Cullen gave the broom in the following manner; half an ounce of fresh broom tops he ordered to be boiled in a pint of water, till reduced to half a pint; of which he gave two table spoonfuls every hour, till it operated by stool, or till the whole is taken. It seldom fails to operate both by stool and urine; and by repeating the exhibition every day, or every second day, some dropsies have been cured.

MED. VIRT. *Diuretic — Cathartic.*

PREP. *Decoction — Ashes.*

GENTIANÆ radix: Gentiana lutea Lin. S. P. Gentian; the root [L. E.]

This plant is found wild in some parts of England: but the dried roots are most commonly brought from Germany, &c. they should be chosen fresh, and of a yellow or bright gold colour within. This root is a strong bitter, and, as such, very frequently made use of in practice: in taste it is less exceptionable than most of the other substances of this class; infusions of it, flavoured with orange peel, are sufficiently grateful.

Gentian is employed now as the principal bitter; and as medicines of this class are allowed to possess many virtues, they have been considered as tonic and stomachic, and also antarthritic, emmenagogue, antiseptic, anthelmintic, and febrifuge. Gentian has a better claim to the possession of these powers than

most of this kind. Bitters are said to relieve dyspeptic complaints more readily than bark, by exerting a superior tonic power upon the organs of digestion. Dr. Cullen informs us that gentian united with tormentil, or galls, if given in sufficient quantity, constantly succeeded in curing intermittents.

In infusing the gentian, the water should be poured off soon after it is quite cold, else it acquires a nauseating quality.

A poisonous root was some years ago discovered among some of the gentian brought to London; the use of which occasioned violent disorders, and in some instances death. This is easily distinguishable by its being internally of a white colour, and void of bitterness. This poisonous simple seems to be the root of the *ibora waldensis* of Ray, the *aconitum primum pardalianches* of Gesner; a plant with which, Lobel informs us, the inhabitants of some parts of the Alps used formerly to empoison darts.

MED. VIRT. *Stomachic — Tonic — and Stimulant.*

PREP. *Infusion — Extract — Spirituous Tincture.*

It is given in powder; its dose is from ten to thirty grains.

GEOFFRÆÆ *cortex*: *Geoffrææ inermis* Lin. Cabbage Bark, or Worm-Bark tree [E.]

This is a tree growing abundantly in the low savannahs of Jamaica, of a considerable height, but no great thickness. It has a straight smooth trunk, and sends off its branches near the top. Its leaves are of a dark green, its flowers are rose-coloured and of the papilionaceous kind, set in purple flower-cups. These are succeeded by a green hard fruit, of the size of a plum, having a skin the thickness of a crown piece, and a nut within.

The bark of this tree is externally of a grey colour, black and furrowed on the inside. Its taste is mucilaginous and sweetish; its smell disagreeable. It has long been celebrated as an *anthelmintic* in the West-Indies, and has lately been introduced into European practice.

This bark is used in decoction, syrup, powder, and extract. For making the decoction, an ounce of fresh dried bark is to be boiled gently in a quart of water, till the liquor be of the colour of Madeira wine; and then to be strained off for use. The decoction is preferred in Jamaica, and seems to be the most efficacious as an anthelmintic.

Mr. Anderson, who has written a paper concerning this bark, in the Medical Commentaries, recommends its exhibition in gradually augmented doses of the decoction, for eight or nine mornings successively, and then a dose of jalap and calomel, which seldom fails to bring away the worms.

This is a powerfully acting medicine, and therefore ought to be begun with in small doses, whatever preparation is used, and let them be gradually increased. The decoction is most generally made use of.

MED. VIRT. *Anthelmintic — Purgative.*

PREP. *Decoction — Syrup — Extract — Powder.*

GINSENG [E. L.] *Panaxis quinquefolii* Lin. A small root brought from North America, and sometimes from Tartary and China; an inch or two in length, taper, finely striated, of a whitish or yellowish colour. It has a very sweet taste, accompanied with a slight bitterness and warmth.

The Chinese are said to have a very extraordinary opinion of the virtues of this root, and to look

upon it as an *universal restorative*, in all decays from age, intemperance, or disease, after fatigue of body or mind, and is in high esteem as an *antispasmodic* in nervous complaints. The great value there set upon it, has prevented its being exported into other countries, and its discovery in North America is but of late date, so that among us it has hitherto been very rarely made use of; although, from what can be judged of it by the taste, it seems to deserve some regard, especially as it is now procurable in plenty.

It is given in doses of twenty grains of the powder repeatedly, or a dram of the root boiled in a sufficient quantity of water for one dose.

MED. VIRT. *Stimulant and Corroborant.*

PREP. *Decoction—Powder.*

GLADIOLI LUTEI radix: *Iridis palustris. Iridis Pseudacori Lin.* Yellow water-flag, bastard acorus, or water flower de luce; the roots.

This grows common by the brinks of rivers and in other watery places. The root has a very acrid taste, and proves, when fresh, a strong cathartic: its expressed juice, given to the quantity of eighty drops every hour or two, and occasionally increased, has occasioned a plentiful evacuation, after jalap, gamboge, &c. had proved ineffectual (see the Edinburgh Essays, vol. v. art. 8. Abridg. vol. i. page 202.) By drying, it loses its acrimony and purgative virtue. BERGIUS says in its *fresh state*, it is an hydragogue and purgative; — *when dried*, an astringent. Indeed, the root in this state is so powerfully astringent, that it has been used instead of galls, to make ink, and for the purpose of dying black; and been successfully employed in the cure of diarrhoeas. The juice, besides being an acrid

purgative, has been considered as an useful application to serpiginous eruptions, and scrophulous tumours.

MED. VIRT. JUICE *strongly cathartic*—DRIED ROOT *astringent.*

GLYCYRRHIZÆ radix: *Glycyrrhizæ glabræ Lin.* Liquorice; the root [*L. E.*]

This is produced plentifully in all the countries of Europe. That which is the growth of our own is preferable to such as comes from abroad; the latter being generally mouldy, which this root is very apt to become, unless kept in a dry place. The powder of liquorice, usually sold, is often mingled with flour, and I fear too often with substances not quite so wholesome: the best sort is of a brownish yellow colour (the fine pale yellow being generally sophisticated) and of a very rich sweet taste, much more agreeable than that of the fresh root. *Liquorice is almost the only sweet that quenches thirst*; whence it was called by the Greeks *adipsion*: but then it must be chewed some time after it has lost its sweet taste, for then it gives out its acrid and bitterish matter, which stimulates the mouth and fauces, so as to produce an excretion of fluid, and thereby takes off the thirst, which the sweetness had produced.

Infusions or extracts made from it, afford very convenient vehicles for the exhibition of other medicines; its taste concealing that of unpalatable drugs more effectually than any other saccharine substances.

Galen takes notice, that it was employed to relieve thirst in hydropic cases, to prevent the necessity of drinking. Mr. Fuller, in his *Medicina gymnasica*, recommends this root as a very useful *pectoral*, and says it excellently *softens acrimonious humours*, at the same time that it *proves gently detergent*: and this ac-

count is warranted by experience. An extract is directed to be made from it in the shops: but this preparation is brought chiefly from abroad, though the foreign extract is not equal to such as is made with proper care among ourselves.

MED. VIRT. *Emollient* — *Pectoral*.

PREP. *Extract* — *Powder*.

GRAMINIS CANINI *radix*: *Triticum repens* Lin. Quick-grass; the roots.

Grass roots have a sweet roughish taste. They are principally recommended in aperient spring drinks, for what is called purifying and sweetening the blood.

GRANATI *petala floris et cortex fructus*: [L. E.] *Punica granatum* Lin. The rind of the pomegranate, called *malicorium*, and the petals of the flowers, called *balaustine*.

A prickly tree or shrub, with deep red flowers, fruit nearly as big as a moderate orange, with a thick rough rind, brownish without, yellowish within, and contains a red juicy pulp. A native of the southern parts of Europe, Florida, and the East.

The pomegranate tree is sometimes met with in our gardens; but the fruit, for which it is chiefly valued, rarely comes to such perfection as in warmer climates. The fruit has the general qualities of the other sweet summer fruits, allaying heat, quenching thirst, and gently loosening the belly. The rind is a strong astringent, and as such is occasionally made use of; and the flowers are possessed of astringency in a less degree.

The rind and flowers have both been successfully employed as astringents, both externally and internally; in fomentations, gargles, and given in diarrhoeas, and dysenteries, and other cases where restringents are necessary. The dose in powder is from 3ss. to a dram — in infusion or decoction, to half an ounce.

MED. VIRT. JUICE *refrigerant*. FLOWERS and RIND *astringent*.

GRATIOLÆ *herba*. *Gratiolæ officinalis* Lin. Hedge hyssop; the herb [E. L.]

This is a low perennial plant, with oblong, finely serrated leaves, set in pairs on the stalks, without pedicles; in their bosoms come forth solitary, whitish, tubulous, irregular flowers, followed by roundish, pointed capsules, full of small seeds; it is a native of the southern parts of Europe, grows usually in wet meadows, and is raised in some of our gardens. The herb has no smell, but an intensely bitter nauseous taste, both dry and fresh; though the expressed juice is less bitter than the residuum: water extracts best its virtues, which are strongly purgative, nor does drying much weaken them. Hedge-hyssop is certainly a powerful and active cathartic: some it vomits, and now and then it is said to salivate; it is considered also as *deobstruent*, *anthelmintic*, and *diuretic*. In leucophlegmasia, dropsy, mania, worms, melancholy, &c. it has often proved more successful than the common remedies. It is given in different forms in powder, infusion, and extract.

An infusion of ʒij. or ʒss. in powder is strongly purgative. The extract is given in small doses at first, and gradually increased from gr. i. to xxx. in a day. The infusion or extract of the leaves is most suitable to those for whom great and sudden evacuations are not necessary. Half a scruple of the leaves with five grains of gentian, BERGIUS has given with success three times a day, in the relapses of bilious fevers, and autumnal quartans. From half a scruple to half a dram of the root, which is intensely bitter and subastringent, acts powerfully; and is most proper for those labouring

under dropsy, mania, melancholy, or afflicted with worms.

MED. VIRT. *Emetic and Cathartic.*

GUAIACI *lignum, cortex, gummi, resina. L. E. Guaiaci officinalis Lin.* Guaiacum, a tree growing in the warmer parts of the Spanish West Indies; its wood, bark, and resin called gum guaiacum [*L. E.*]

The wood is very ponderous, of a close compact texture; the outer part is of a yellow colour, the heart of a deep blackish green, pale, and brown colours: the bark is thin, smooth, externally of a dark greyish hue; both have a lightly aromatic, bitterish, pungent taste; the bark is somewhat the weaker. The resin (which exudes from incisions made in the trunk of the tree) is brought to us in irregular masses, usually friable, of a dusky greenish, and sometimes of a reddish cast, with pieces of the wood among them: its taste is more acrid and pungent than that of the wood or bark.

Their general virtues are those of a warm stimulating medicine: they strengthen the stomach and other viscera; and remarkably promote the urinary and cuticular discharge: hence in cutaneous defecations, and other disorders proceeding from obstructions of the excretory glands, and where sluggish serous humours abound, they are eminently useful: rheumatic and other pains have often been relieved by them. The resin is the most active of these drugs; and the efficacy of the others depends upon the quantity of this part contained in them: the resin is extracted from the wood in part by watery liquors, but much more perfectly by spirituous ones; the watery extract of this wood, kept in the shops, proves not only less in quantity, but considerably weaker, than one made with spirit. This latter extract is of the same quality with the native resin, and differs from that brought to us only in being purer. The

gum or extracts are given from a few grains to a scruple or half a dram: which latter dose proves for the most part considerably purgative.

Many are the virtues attributed to this wood and gum resin, whose properties are similar, inasmuch as the wood depends upon the quantity of the gum resin it contains. It is certainly *diaphoretic, stimulant, diuretic, and purgative*: and has been given in a variety of diseases; as the lues venerea, gout, cuticular diseases, chronic rheumatism, scrophula, and some scirrhus diseases. It is considered to be very diffusible in the system, and thereby have a considerable power in stimulating the extreme vessels every where. In torpid habits, it is a singularly useful medicine, and has its powers much increased by its union with volatile substances, and often with some of the mercurial preparations.

Decoction of this wood and the bark was formerly confided in as an alterative and cure for the syphilis, and scorbutic rheumatism; and also in cutaneous foulnesses, and herpetic eruptions. The wood generally forms one of the principal ingredients in diet drinks: the gum-resin may be given from six grains to twenty at a dose; but the latter will be apt to purge briskly.

MED. VIRT. *Aperient — Stimulant — Diaphoretic — and Diuretic.*

PREP. *Extract — Tincture — Gum-resin.*

GUMMI ARABICUM [*L. E.*] *Ex Mimosa nilotica Lin.* Gum Arabic; a concrete gum, exuding from the Egyptian acacia tree. This is brought to us from Turkey, in small irregular masses or strings, of a pale yellowish colour. The true gum Arabic is rarely to be met with in the shops; gum senega or fenica, which comes from the coast of Guinea, being usually sold for

it; this greatly resembles the other, and perhaps, as Dale conjectures, exudes from a tree of the same kind: it is generally in large pieces, rough on the outside; and in these circumstances possibly consists the only difference betwixt the two; although the former is held to be the purer and finer gum, and therefore preferred for medicine; and the latter the stronger, more substantial and cheaper, and consequently more employed for mechanic uses. The virtues of this gum are the same with those of gummy and mucilaginous substances in general: it is given, from a scruple to two drams, in hoarsenesses, a thin acrimonious state of the juices, and where the natural mucus of the intestines is abraded.

MED. VIRT. *Mucilaginous.*

GUMMI TRAGACANTHÆ

[L. E.] *Astragalus Tragacantha* Lin. S. P. The gum of the tragacanth, a thorny bush growing in Crete, Asia, and Greece. This gum is of a much stronger body than the foregoing, and does not so perfectly dissolve in water. A dram will give a pint of water the consistence of a syrup, which a whole ounce of gum Arabic is scarce sufficient to do. Hence its use for forming troches, and the like purposes, in preference to the other gums.

The compound powder which bears this name, is of service in hectic coughs, and diarrhoeas, by sheathing the throat, stomach, and intestines, against thin acrimonious humours.

MED. VIRT. *Demulcent.*

HÆMATITES lapis. *Hæmatites*, or bloodstone.

This is an elegant iron ore, extremely hard, of a dark reddish or yellowish colour: it is found either along with the other ores of iron, or in distinct mines by itself. With

regard to its medical virtues, we conceive they do not vary from those experienced from rust and the common croci of iron, notwithstanding the extraordinary opinion which many have entertained of it; as of its curing ulcers of the lungs, which Geoffroy says hæmatites dries and heals.

HEDERÆ ARBOREÆ folia, gummi seu resina: *Hedera Helicis* Lin. Ivy; the leaves, resin called gum hederæ.

This is a climbing shrubby plant, growing commonly from the trunks of trees, or on old walls. The leaves have very rarely been given internally, notwithstanding they are recommended (in the *Ephem. natur. curios.* vol. ii. obs. 120.) against the atrophy of children: their taste is nauseous, acrid, and bitter. Externally they have sometimes been employed for drying and healing ichorous sores, and likewise for keeping issues open. The berries were supposed by the ancients to have a purgative and emetic quality: later writers have recommended them in small doses, as diaphoretics and alexipharmacs; and Mr. Boyle tells us, that in the London plague the powder of them was given with vinegar, with good success, as sudorific. It is probable the virtue of the composition was rather owing to the vinegar than to the powder. The resin was ranked by the ancients, (if their *δαρσινος* was the same with our *gummi hederæ*) among the depilatories; from this class, to which it certainly had no title, it has since been removed to that of conglutinaters of wounds, to which it has no very just one.

HEDERÆ TERRESTRIS folia. *Glechoma hederacea* Lin. Ground ivy; the leaves [E.]

Ground-ivy is a low plant, frequent in hedges and shady places. It has an aromatic, though not very agreeable smell; and a quick,

bitterish, warm taste. This herb is an useful *corroborant*, *aperient*, and *detergent*; and hence stands recommended against *laxity*, *debility*, and *obstructions of the viscera*; some have had a great opinion of it for *cleansing* and *healing ulcers of the internal parts, even of the lungs*; and for *purifying the blood*. It is customary to infuse the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtue, and likewise helps to fine them down: scarce any other herb has this effect more remarkably than ground-ivy.

It has chiefly been given in *pulmonary* and *nephritic complaints*; and is a favourite with the poor in *obstinate coughs*. It is chiefly drank in form of tea, and sweetened with honey; however, it does not appear to have much efficacy.

MED. VIRT. *Aperient* and *Corroborant*.

HELLEBORASTER. *Helleborus fœtidus* Lin. *folia* [L.] Stinking bear's-foot; the leaves S. P.

In many parts of England this grows wild, in meadows, shady places, and under hedges. The root is perennial, fibrous, outwardly black, within whitish, and of a bitter, acrid taste. The stem is two or three feet high, round, hard, branched, with numerous leaves, bird-footed, all on the stem, on long pedicles, each segment somewhat oblong, serrated, pointed, and of a deep green. They emit, when fresh, on being handled, a disagreeable smell, and have a bitterish very acrid taste, of which they lose a little by drying.

The flowers, which appear in April, and are placed on the extremities of the stem and branches, consist of five large, round, greenish petals, with many stamina, whose tops are flattened. The seeds are roundish, black, and inclosed in membranous pods. They

are given in form of powder, decoction, and juice made into a syrup.

The powder has a strong purgative effect, and is frequently given to children by the common people to destroy worms, in doses of from six to fifteen grains; in decoction 3j. or two drams is a very sharp purge: the juice may be made into syrup, and to this, or a decoction of the leaves, an equal portion of tincture of rhubarb is to be added, of which 3j. is to be given going to bed, or from 3j. to 3ij. in the morning for two or three successive days, to children from two to six years of age: in general, such a dose as will excite vomiting, it has been thought, is the best. However, the helleboraster is to be used with great caution, being violent in its operation; and we have had some instances of deleterious consequences from its incautious exhibition. This has also been considered as useful in some asthmatic and hypochondriacal disorders.

MED. VIRT. *Emetic*—*Purgative*—*Anthelmintic*.

PREP. *Powder*—*Decoction*—*Syrup*.

HELLEBORI ALBI *radix*: *Veratri albi* Lin. S. P. White hellebore; the root [L. E.]

This plant grows spontaneously in Switzerland, and the mountainous parts of Germany. The root has a nauseous, bitterish, acrid taste, burning the mouth and fauces: wounded when fresh, it emits an extremely acrimonious juice, which, mixed with the blood by a wound, is said to prove very dangerous: the powder of the dry root, applied to an issue, occasions violent purging: snuffed up the nose, it proves a strong and not always a safe sternutatory. This root, taken internally, acts with extreme violence as an *emetic*, and has been observed, even in a small

dose, to occasion convulsions, and other terrible disorders. The ancients sometimes employed it in very obstinate cases, and always made this their last resource. Modern practice seems to have almost entirely rejected its internal use, though some have lately ventured upon so large a dose as a scruple, in maniacal cases, and found good effects from it, after the stronger antimonial preparation had been given in vain. It is however now seldom given internally; it is in a great measure confined to external uses, in diseases of the skin; as the scabies, and different prurient eruptions, herpes, morbus pediculosis, lepra, scrophula, &c. and in many of these it has been successfully employed both externally and internally. As this is a very irritating medicine, and may, from being injudiciously applied, produce very dangerous effects, it should be had recourse to only in desperate cases, and should be begun with in a dilute state, in small doses, gradually increasing them according to their effects.

MED. VIRT. *Violently Emetic — Sternutatory.*

PREP. *Tincture.*

HELLEBORI NIGRI *radix*: *Hellebori nigri Lin. S. P.* Black hellebore; the root [L. E.]

This plant grows wild in the mountainous parts of Switzerland, Austria, and Stiria: the earliness of its flowers, which sometimes appear in December, has gained it a place in our gardens.

In some parts of Germany, a species of black hellebore has been made use of, which not unfrequently produces violent, and sometimes deleterious effects: this the Wirtemberg college particularly caution against, though without mentioning any marks by which it may be distinguished, or even giving the precise name of the plant. It appears to be the

fetid black hellebore of C. B. called in England, where it grows wild, *setterwort, settelwort, or bastard hellebore*. The roots of this may be distinguished from the officinal sort by their being less black. The roots of the *poisonous aconites* resemble in appearance those of the black hellebore; and in the Breslaw Collections we find some instances of fatal effects occasioned by mistaking the former for the latter: these also are happily discoverable by their colour: *the aconitum being lighter coloured than even the palest of the black hellebores*. The faculty of Paris, by allowing the use of one of the paler hellebores (the green flowered, which grows wild in England, and is called by our farriers *peg root*) have in some measure deprived the shops of the benefit of this criterion: but the London college have directed the *darkest coloured of all the roots of this class*. Since, therefore, the two noxious roots which the buyer is most apt to mistake for this, are distinguishable from it by their colour, but have no other external mark by which they may be with certainty known, particular regard ought to be had to this circumstance; only the *deepest black being chosen, and all the paler roots rejected*.

The taste of hellebore is acrid and bitter. Its acrimony, as Dr. Grew observes, is first felt on the tip of the tongue, and then spreads immediately to the middle, without being much perceived on the intermediate part: on chewing it for a few minutes, the tongue seems benumbed, and affected with a kind of paralytic stupor, as when burnt by eating any thing too hot: the fibres are more acrimonious than the head of the root from which they issue. Black hellebore root, taken from fifteen grains to half a dram, proves a strong cathartic, and, as such, has been celebrated for

the cure of maniacal, and other disorders, proceeding from what the ancients called *atra bilis*: in which cases, medicines of this kind are doubtless occasionally of use, though they are by no means possessed of any specific power. It does not however appear, that our black hellebore acts with so much violence as that of the ancients: whence many have supposed it to be a different plant: and indeed the descriptions which the ancients have left us of their hellebore, do not agree with any of the sorts usually taken notice of by modern botanists. Another species has been discovered in the eastern countries, which Tournefort distinguishes by the name of *helleborus niger orientalis*, *amplissimo folio*, *caule præalto*, *flore purpurascente*, and supposes to be the true ancient hellebore, from its growing in plenty about mount Olympus, and in the island Anticyra, celebrated of old for the production of this anti-maniacal drug: he relates, that a scruple of this sort, given for a dose, occasioned convulsions.

Our hellebore is at present looked upon principally as an alterative, and in this light is frequently employed, in small doses, for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands: it often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual or improper. An extract made from this root with water is one of the mildest, and, for the purposes of a cathartic, the most effectual preparation of it; this operates sufficiently, without occasioning the irritation with which the pure resin is accompanied. A tincture drawn with proof spirit contains the whole virtue of the hellebore, and seems to be one of the best preparations of it when de-

signed for an alterative. It has also been recommended in dropsies, and some cutaneous diseases. The dose of the powdered root is from three to ten grains; of the extract, from ten grains to four or more; and of the tincture a tea spoonful twice a day. The extract, joined with equal parts of gum myrrh, and a twentieth part of powder of *carduus benedictus*, forms *Bacher's* famous tonic pill (which see in the third part of this work), of which from one to thirty grains in a day, according to the strength of their action, and the constitution of the patient, are to be exhibited.

MED. VIRT. A powerful alterative, and emmenagogue.

PREP. Extract—Tincture—Powder.

HEPATICÆ NOBILIS herba: *Anemone hepatica* Lin. Noble liverwort; the herb.

This herb has a place in our gardens on account of the beauty and early appearance of its flowers. It is a cooling, gently restraining herb; and hence recommended in a lax state of the fibres as a corroborant.

MED. VIRT. Cooling and Corroborant.

HERMODACTYLUS. *Iris tiberosa* Lin. Hermodactil; a root brought from Turkey. It is of the shape of a heart flattened, of a white colour, compact, yet easy to cut or powder; of a viscid sweetish taste, with a light degree of acrimony.

Hermodactils were of great repute among the ancients as a cathartic; but those we now meet with in the shops have very little purgative virtue. Neumann declares he never found them to have any effect at all.

MED. VIRT. Purgative; but doubtful.

HERNIARIÆ folia: *Herniaria glabra* Lin. Rupture-wort; the leaves.

This is a low herb, growing wild in sandy and gravelly grounds. It is a very mild restraining, and may, in some degree, be serviceable in disorders proceeding from a weak flaccid state of the viscera: to the virtue for which it has been most celebrated, it has little title—that of curing hernias.

MED. VIRT. *Astringent.*

HIPPOCASTANUM. *Ph. Edin.*

Æsculus Hippocastanum Lin. Horse-chestnut [*E.*]

The fruit of this tree, which is a trilocular capsule, containing two seeds in each cell, has been given as food to sheep; and steeped in water, so as to extract its bitterness, is said to fatten poultry. It falls spontaneously into a saponaceous gluten, which has been used instead of soap for washing linen. No writer mentions its medical application: but the Edinburgh college have admitted it on the recommendation of Dr. Gardiner, who says, that three or four grains of the powder, snuffed up the nostrils in the evening, operate next morning as an excellent sternutatory: even the infusion or decoction of this fruit produces the same effect, and thereby proves very beneficial in obstinate inflammations of the eyes, and some complaints of the head, by the discharge produced from the nose.

The bark of the horse-chestnut has been proposed in Italy, according to Haller, as a substitute to the Peruvian bark in the cure of intermittents; and the experiment has proved successful (*). Indeed it has been said, where the Peruvian bark was indicated, that the chestnut tree bark has afforded equal, if not superior, advantage; but it must be taken from those branches which are neither very old nor very young; and exhibited under

similar forms and doses as directed with respect to the Peruvian bark. It rarely disagrees with the stomach; but its astringent effects generally require the occasional exhibition of some aperient medicine.

MED. VIRT. *Corroborant and Errhine.*

HIPPOSELINI *folia, radix, semen: Hipposelini Theophrasti.* Alexanders; the leaves, root, and seeds.

This is an umbelliferous plant, differing from the others of that class, in bearing a large tumid black seed: it grows by the sea side, upon rocks. In medical qualities it agrees with *apium* (smallage), except that the *hipposelinum* is somewhat stronger.

HORDEI *semen: Hordei distichi* Lin. *S. P.* Common barley [*L. E.*]

HORDEUM GALLICUM *five* MUNDATUM. French barley, or the common barley freed from the shell.

HORDEUM PERLATUM *dictum* [*L.*] Pearl barley; prepared in Germany and Holland, by grinding the shelled barley into little round granules, which appear of a kind of pearly whiteness.

Barley, in its several states, is more cooling, less glutinous, and less nutritious, than wheat or oats; among the ancients, decoctions of it were the principal aliment and medicine in acute diseases.

MED. VIRT. *Cooling.*

HORMINI SATIVI, *seu Sclarea, folia, semen: Solviæ sclareae* Lin. Garden clary; the leaves and seeds:

These have a warm, bitterish, pungent taste; and a strong, not very agreeable smell: the touch discovers in the leaves a large quantity of glutinous or resinous matter. They are principally re-

(*) *Silrp. Helvet. L. 442.*

commended in the *fluor albus*, and other female weaknesses, in hysterical disorders, and in flatulent colics.

MED. VIRT. *Corroborant.*

HYOSCYAMI NIGRI *Lin. folia.* The common wild, or black henbane; the leaves [E.]

This vegetable is a native of England, and grows commonly amongst rubbish, about villages, road sides, &c. and flowers in June. It has long been considered as one of the most deleterious of the narcotic class of medicines to which it belongs; but though it is possessed of very powerful action, still there is little doubt but by judicious management it may become a very efficacious remedy in many cases.

The smell of the hyoscyamus is strong and peculiar, and the leaves, when bruised, emit somewhat of the odour of tobacco; this smell is still stronger when the leaves are burnt; and on burning they sparkle with a deflagration somewhat resembling that of nitre; but to the taste they are mild, and mucilaginous; still when taken in sufficient quantity, are capable of producing terrible symptoms, such as appearances of intoxication, attended with wild delirium, remarkable dilatation of the pupils of the eyes, and convulsions. This plant was well known to the ancients, and its effects as an anodyne were experienced by DIOSCORIDES; and it has been used in this view both externally and internally by many subsequent practitioners, particularly Celsus; and in hæmorrhagic diseases the seeds were successfully given by PLATER, FORESTUS, and BOYLE. For a long time however afterwards its use was laid aside, till again introduced into practice by Stoërck, who gave it with success in internal convulsions and spasms, palpitations of the heart, madness, melancholy, epilepsy, in-

veterate head-aches, hæmoptysis; and a troublesome cough which attended the last-mentioned complaint, was completely appeased by the repeated use of the extract. — Collin extended the dose to twenty-four or thirty grains a day; though Stoërck, and some others, recommend this extract in the dose of one grain or two; but Cullen never discovered its anodyne effects, till he had proceeded to doses of eight or ten grains, nay, sometimes to fifteen, nay, even to twenty.

In fine, the hyoscyamus is found often an agreeable anodyne, and hypnotic, and particularly in constitutions where opium will not agree, because it is less binding to the belly: in other respects its virtues seem to be similar to those of opium. It should however never be increased to very full doses, because it has been found, when thus given, it more readily produces delirium than opium, and in many cases gives turbulent and unrefreshing sleep.

The leaves have been applied in the way of poultice, to resolve scirrhus tumours, and to remove some pains of the arthritic and rheumatic kind. In melancholy, mania, epilepsy, and various convulsive affections, it has not been found to produce any powerful effects, nor superior to what have been experienced by the administration of opium.

MED. VIRT. *Narcotic.*

PREP. *Extract — Cataplasm — Powder.*

HYPERICI *folia, flores, semen: Hyperici perforati* *Lin. S. P.* St. John's wort; the leaves, flowers [L.] and seeds [E.]

This plant grows wild in woods and uncultivated places throughout England. The leaves are without foot-stalks, and placed in pairs; they are entire, oval, and beset

with a great number of minute transparent vesicles, which have the appearance of small perforations through the disc, and hence the name *perforatum*. Its taste is rough and bitterish; the smell disagreeable. *Hypericum* has long been celebrated as a *corroborant, diuretic, and vulnerary*; but more particularly in *hysterical, hypochondriacal, and maniacal disorders*: it has been reckoned of such efficacy in the latter, as to have thence received the name of *fuga demonum*. It was also recommended INTERNALLY for wounds, bruises, ulcers, spitting of blood, bloody urine, agues, and worms; EXTERNALLY as an *anodyne, detergent, and discutient*; however, it is now rarely brought into practice. It is observable, that the flowery tops tinge expressed oil of a red colour (which very few vegetable substances will do), and communicate a blood-red to rectified spirit.

MED. VIRT. *Diuretic — Sudorific — Alterant.*

HYPOCISTIDIS succus inspissatus: Asari Hypocistidis Lin. Juice of hypocistis.

Hypocistis is a fleshy production, growing in the warmer climates from the roots of different kinds of cisti. Its inspissated juice is an *astringent*, similar to acacia, but somewhat stronger. At present it is scarce otherwise made use of than as an ingredient in some of the old compositions.

MED. VIRT. *Astringent.*

HYSSOPI folia: Hyssopi officinarum caruleæ sive spicatae. C. B. Hyssop; the leaves [*E.*]

The leaves of hyssop have an aromatic smell, and a warm pungent taste. Besides the general virtues of aromatics, they are particularly recommended in *humoral asthma, coughs, and other disorders of the breast and lungs*; and said to promote expectoration. An infusion

of the leaves is chiefly drank as tea, sweetened with honey or sugar: in contusions, and for removing blackness occasioned by the extravasated fluids, this has been recommended in form of poultice and fomentation.

MED. VIRT. *Aromatic — Pectoral.*

JALAPIUM [L. E.] Convolvuli Jalapæ Lin. Jalap.

Jalap is the root of an American convolvulus, brought to us in thin transverse slices from Xalapa, a province of New Spain. Such pieces should be chosen as are most compact, hard, weighty, dark-coloured, and abound most with black circular striæ. Slices of briony root are said to be sometimes mixed with those of jalap: *these may be easily distinguished by their whiter colour and less compact texture*. This root has no smell, and very little taste upon the tongue; but when swallowed, it affects the throat with a sense of heat, and occasions a plentiful discharge of saliva.

Jalap in substance, taken in a dose of about *half a dram* (less or more, according to the circumstances of the patient) in *plethoric, or cold phlegmatic habits, proves an effectual, and in general a safe purgative*, performing its office mildly, seldom occasioning nausea or gripes, which too frequently accompany the other strong cathartics. In *hypochondriacal disorders, and hot bilious temperaments, it gripes violently, if the jalap be good; but rarely takes due effect as a purge*. An extract, made by water, *purges almost universally, but weakly; and at the same time has a considerable effect by urine: the root remaining after this process, gripes violently*. The pure resin, prepared by spirit of wine, *occasions most violent gripings, and other terrible symptoms, but scarce proves at all cathartic; triturated*

with sugar, or with almonds into the form of an emulsion, or dissolved in spirit and mixed with syrups, it purges plentifully in a small dose, without occasioning much disorder: the part of the jalap remaining after the separation of the resin yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine.

Frederick Hoffman particularly cautions against giving this medicine to children, and assures us, that it will destroy appetite, weaken the body, and perhaps occasion even death. In this point this celebrated practitioner was probably deceived: children, whose vessels are lax, and food soft and lubricating, bear these kinds of medicines, as Geoffroy observes, better than adults.

Jalap united with crystals of tartar, and well triturated, or also with hard sugar, forms a very easy and pleasant purgative; for it will operate in lesser doses than when taken by itself, and at the same time very moderately, and without griping. Jalap, united with double its weight of salts of tartar, forms the compound powder of jalap; which may be taken in doses of from two scruples to four, the simple powder only in half that quantity, which is supposed equal to ten or fifteen grains of the extract, or about ʒij. of the tincture; mixed with calomel it is considered a good anthelmintic; and a hydragogue, and given in dropsies.

It is not proper to administer it in acute fevers, or in hot or dry constitutions; for in these, like the rest of acrid and irritating purgatives, it aggravates the intense and often inflammatory heat in the viscera; and produces a sparing, nay, indeed, frequently not any evacuation at all. It is a most agreeable purgative in cold constitutions, and

such as abound with serous fluids, particularly in dropsy, anasarca, and cachexy. Thus far GEOFFROY: though Dr. CULLEN says, that he never knew it heating except when given in very large doses.

MED. VIRT. Cathartic.

PREP. Compound Powder — Extract — Resin — and Tincture.

JAPONICA TERRA, five catechu. Mimosza Catechu Lin. Suppl. P. [L. E.]

An inspissated vegetable juice, prepared in the East-Indies from the fruit, as is supposed, of the areca palm-tree. It is dry and pulverable, outwardly of a reddish colour, inwardly of a shining dark brown, almost black, with some cast of red. When pure, it dissolves totally in water, and almost totally in rectified spirit. As we usually meet with it, a considerable quantity of sandy matter is left by both these menstrua. This medicine is a mild astringent, and frequently employed as such in alvine fluxes, uterine profluvia, in laxity and debility of the viscera in general, and in coughs proceeding from thin acrid defluxions. It is often suffered to dissolve leisurely in the mouth as a topical astringent for laxities and exulcerations in the gums, for aphthous ulcers in the mouth, and similar affections. Its taste is more agreeable than that of most other substances of this class; chewed for some time, it leaves a kind of sweetness in the mouth. The troches and tincture, kept in the shops, are very elegant preparations of it.

JASMINI flos: Jasmini officinalis Lin. Jasmine; the flowers.

This is a small tree, commonly planted in our gardens. The flowers have a strong smell, which is liked by most people; expressed oils extract their fragrance by infusion; and water elevates somewhat of it in distillation; but no ef-

sential oil has hitherto been obtained from them: the distilled water, kept for a little time, loses its odour. As to their medical virtues, the present practice expects not any from them, notwithstanding they have been recommended for promoting delivery, curing ulcerations of the uterus, &c.

MED. VIRT. *Stimulant.*

ICHTHYOCOLLA. *Acipenser ruthenus et Hufo* L. *Syst. Nat.* Fish-glue, or ising-glass [L.]

This is a solid glutinous substance, obtained from a large kind of fish, of the sturgeon kind, caught in the seas of Muscovy. The skin, and some other parts of the animal, are boiled in water, the decoction inspissated to a proper consistence, and then poured out so as to form thin cakes; these are either further exsiccated till perfectly dry, or cut whilst soft into slices, which are afterwards bent, or rolled up into spiral, horse-shoe, and other shapes. But it has lately been declared by Mr. Jackson to be the air-bladder, intestines, and other membranous parts of fishes freed from their natural mucus, rolled up, and dried. This glue is more employed for mechanic purposes than in medicine. It may be given in a *thin acrimonious state of the juices*, after the same manner as the vegetable gums and mucilages; regard being had to their different disposition to putrescence.

It is given in fluor albus, continued diarrhoea, and other weaknesses, boiled into a jelly with milk. — A strong solution in water, when spread on silk, forms an elegant plaster, which joined with resins and balsams takes the name of *court-plaster*.

IMPERATORIÆ *radix*: *Imperatoriae ostruthium* Lin. Master-wort; the root [E.]

This is a native of the Alps and Pyrenean mountains, and some

parts of Germany, whence we are supplied with roots superior in aromatic flavour to those raised in our gardens. The smell of this root is very fragrant; its taste bitterish, warm, and pungent, glowing in the mouth for a long time after it has been chewed. This simple, though undoubtedly an elegant aromatic, is not regarded in the present practice: it is scarcely ever directed in extemporaneous prescription, and the only officinal composition it has a place in, is the plague-water of the Edinburgh Pharmacopœia. Its flavour is similar to that of angelica, but stronger.

MED. VIRT. *Aromatic.*

IPECACUANHA [L. E.] A root brought from the Spanish West-Indies.

It is divided into two sorts, Peruvian and Brazilian: but the eye distinguishes three, ash-coloured or grey, brown, and white. The *ash-coloured*, or Peruvian ipecacuanha of the shops, is a small wrinkled root, bent and contorted into a great variety of figures, brought over in short pieces, full of wrinkles, and deep circular fissures, quite down to a small white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little smell; the taste is bitterish and subacid, covering the tongue, as it were, with a kind of mucilage. The *brown* is small, and somewhat more wrinkled than the foregoing, of a brown or blackish colour without, and white within; this is brought from Brazil. The *white* sort is woody, has no wrinkles, and no perceptible bitterness in taste. The first sort (the ash-coloured or grey ipecacuanha) is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to

produce violent effects. The white, though taken in a large one, has scarce any effect at all: Mr. Geoffroy calls this sort bastard ipecacuanha, and complains that it is an imposition upon the public. To what species of plant the ipecacuanha belongs, has not as yet been determined. Geoffroy, Neumann, Dale, and Sir Hans Sloane, inform us, that the roots of a kind of apocynum (dog's bane) are too frequently brought over instead of it: and instances are given of ill consequences following from the use of these roots. If the marks above laid down, particularly the ash-colour, bitterness, deep wrinkles, and bitterish taste, be carefully attended to, all mistakes of this kind may be prevented.

Ipecacuanha was first brought into Europe about the middle of the last century, and an account of it published about the same time by Piso; but it did not come into general use till about the year 1686, when Helvetius, under the patronage of Lewis XIV. introduced it into practice. *This root is one of the mildest and safest emetics we are acquainted with; and has this peculiar advantage, that if it should not operate by vomit, it passes off by the other emunctories.* It was first introduced among us with the character of *an almost infallible remedy in dysenteries and other inveterate fluxes*; as also in disorders proceeding from obstructions of long standing; nor has it lost much of its reputation by time. *In dysenteries, it almost always produces happy effects, and often performs a cure in a very short space of time. In other fluxes of the belly, in beginning dysenteries, and such as are of a malignant kind, or where the patient breathes a tainted air, it has not been found equally successful. In these cases, it is necessary to continue the use of this medicine for several days,*

and to join with it opiates, diaphoretics, and the like. This root, *given in substance, is as effectual, if not more so than any of the preparations of it*: the pure resin acts as a strong irritating emetic, but is of little service in dysenteries; whilst an extract prepared with water is almost of equal service in these cases with the root itself, though it has little effect as an emetic. Geoffroy concludes hence, that the chief virtue of ipecacuanha in dysenteries depends upon its gummy substance, which lining the intestines with a soft mucilage, when their own mucus has been abraded, occasions their exulcerations to heal, and defends them from the acrimony of the juices: and that the resinous part, in which the emetic quality resides, is required, where the morbid matter is lodged in the glands of the stomach and intestines. But if the virtues of this root were entirely owing to its mucilaginous or gummy part, pure gums, or mucilages, might be employed to equal advantage. Water, assisted by a boiling heat, takes up from all vegetables a considerable portion of resinous along with the gummy matter. If the ipecacuanha remaining after the action of water be digested with pure spirit, it will not yield half so much resin as at first: so that the aqueous extract differs from the crude root only in degree, being proportionably less resinous, and having less effect, both as an emetic, and in the cure of dysenteries. The virtues of ipecacuanha, in this disorder, depend upon its promoting perspiration, the freedom of which is here of the utmost importance, and an increase of which, even in a healthful person, is generally observed to suppress the evacuation by stool. In dysenteries, the skin is for the most part dry and tense, and perspiration obstructed: the common dia-

phoretics pass off without effect through the intestinal canal: small doses of this root have been administered with the best effects, proving both laxative and diaphoretic: but ipecacuanha, if the patient, after a puke or two, be covered up warm, brings on a plentiful sweat. After the removal of the dysentery, it is necessary to continue the use of the medicine for some time longer, in order to prevent a relapse. For this purpose, a few grains, divided into several doses, so as not to occasion any sensible evacuation, may be exhibited every day; by which means the cure is effectually established. And indeed small doses, given even from the beginning, have been often found to have better effects in the cure of this disease than larger ones. Geoffroy informs us, from his own experience, that he has observed ten grains of the powder to act as effectually as a scruple or two; and therefore confines the dose betwixt six and ten grains: it has lately been found, that even smaller doses prove sufficiently emetic. The only official preparation of this root is a tincture made in wine.

Dr. Akenfide remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as ipecacuanha, in *spasmodic asthma*. In violent paroxysms, a scruple procures relief immediately; where the disease is habitual, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks. It has also been successfully used in hæmorrhages: in menorrhagia one third of, or half a grain given every four hours, has been said to effect a cure. In catarrhal, or even consumptive cases, as well as in various states of fever small doses have been found of great use.

Intermittents have been cured by

giving five grains, or enough to excite nausea, an hour before the accession of the fit was expected. They have also been successfully treated by ipecacuanha given as an emetic at the time of the accession, or at the end of the cold stage. When combined with opium, it affords us the most useful and active sweating medicine of which we are in possession.

A full dose of ipecacuanha in powder is one scruple, as an emetic; as a diaphoretic, from half a grain to three: and of ipecacuanha wine, in the first intention, from ʒij. to ʒxij.; in the latter, from from twenty to forty drops with a fourth part or more of tincture of opium.

MED. VIRT. *Emetic — Diaphoretic.*

PREP. *Powder — compound Powder — Tincture.*

IRIDIS FLORENTINÆ *radix*: L. S. P. Florentine orris; the root [L. E.]

There are several varieties of this plant cultivated in our gardens on account of the elegance of their flowers. The roots, when recent, have a bitter, acrid, nauseous taste, and taken into the body prove *strongly cathartic*; and hence the juice is recommended in *dropries*, in a dose of three or four scruples. By drying they lose this quality, yet still retain a somewhat pungent, bitterish taste: their smell in this state is of the aromatic kind; those produced in the warmer climates have a very grateful flavour, approaching to that of March violets: hence the use of the Florentine iris in perfumes, and for flavouring liquors. In the dried state in which we have it, it is considered as a very insignificant *expectorant*.

JUGLANS. *Juglans regia* L. S. P. Walnut; the unripe fruit [L.]

A watery extract prepared from the unripe fruit of this tree gathered at the accustomed time of pickling, has an acrid, bitterish, slightly aromatic taste, not disagreeable, and is employed chiefly as an anthelmintic. For this purpose a solution of the extract is dissolved in half an ounce of cinnamon water, of which from twenty to thirty drops are given at first thrice a day to infants two or three years old, and afterwards from forty to fifty, for six or eight days; the third or fifth day giving a purgative, with or without calomel.

MED. VIRT. *Opening and Anthelmintic.*

PREP. *Infusated Juice.*

JUNIPERI baccæ, cacumen.—*Juniperi communis* Lin. Juniper; the berries and tops [L. E.]

This is an evergreen shrub, growing upon heaths and hilly grounds in all the parts of Europe: the wood and resin are not at present made use of for medicinal purposes: the berries are brought from Holland, where this shrub is very plentiful.

Juniper berries have a strong, not disagreeable smell; and a warm, pungent, sweet taste, which, if they be long chewed, or previously well bruised, is followed by a bitterish one. The pungency seems to reside in the bark; the sweet in the juice; the aromatic flavour in oily vesicles, spread through the substance of the pulp, and distinguishable even by the eye; and the bitter in the seeds: the fresh berries yield, on expression, a rich, sweet, honey-like, aromatic juice; if previously pounded so as to break the seeds, the juice proves tart and bitter.

These berries are useful *carminatives* and *stomachics*; are chiefly used for their *diuretic* effects; and are considered also as *diaphoretics*. The liquor remaining after the distil-

lation of the oil, passed through a strainer, and gently exhaled to the consistence of a rob, proves likewise a medicine of great utility, and in many cases is perhaps preferable to the oil, or berry itself. Hoffman is expressly of this opinion, and strongly recommends it in *debility of the stomach and intestines*, and says it is particularly of service to old people who are subject to these disorders, or labour under a difficulty with regard to the urinary excretion: this rob is of a dark, brownish yellow colour, a balsamic sweet taste, with a little of the bitter, according as the seeds in the berry have been more or less bruised.

Cullen is of a very different opinion. He thinks this rob an inert substance, and that the berries derive all their properties from the essential oil, which is like that of turpentine, but of a more agreeable odour:—this oil in doses of two or three drops is found to be an active stimulant. The berries are chiefly taken in infusion, to which is added a proper proportion of gin, and this is thought to form a proper drink for *hydropic patients*.

MED. VIRT. *Carminative*—*Stomachic*—and *Diuretic*.

PREP. *A compound Spirit*—and *Essential Oil*.

KERMES. Coccus quercus cocciferæ Lin. Kermes; the grain.

These grains appear, when fresh, full of small, reddish ovula, or animalcules, of which they are the nidus. On expression, they yield a red juice, of a bitterish, somewhat rough and pungent taste, and a not unpleasant smell: this is brought to us from the south of France. The grains themselves are cured by sprinkling with vinegar before exsiccation: this prevents the exclusion of the ova, and kills such of the animals as are al-

ready hatched; otherwise, they change into a winged insect, leaving the grain an empty husk.

Kermes, considered as a medicine, is a *grateful, very mild restraining, and corroborant*. In this light it was looked upon by the Greeks. The Arabians added a *cordial virtue*. European writers also have in general recommended it for *exhilarating the spirits, and against palpitations of the heart*; but more particularly for *promoting birth, and preventing abortion*. I have known, says Geoffroy, many women, who had never reached the end of pregnancy, made joyful mothers by the use of pills composed of *kermes, germin ovor. exsiccata, and confectio de byacinto* (a composition containing some vegetable astringents and aromatics, together with gold and silver leaf, four precious stones, and other ingredients of less value): three of these pills must be taken for the first dose, and this repeated three times, at the interval of twice three hours; after which three pills more are to be taken every morning on the three last days of the moon in every month till delivery. Notwithstanding this assertion, we conceive our readers will with us believe, that neither the kermes, nor its auxiliaries, are to be much depended on.

MED. VIRT. *Astringent — Corroborant*.

PREP. *Confection*.

KINO. *Gummi rubrum astringens* Dr^{is} Fothergill in *Med. Obs.* Kino [L. E.] Red astringent gum from Gambia: supposed to exude from incisions made in the trunks of certain trees called *pan de sangue*, growing in the inland parts of Africa.

It is very friable, so as to be crumbled in pieces by the hands; of an opaque dark reddish colour inclining to black; when reduced to powder, of a deep brick red. It

has a resemblance to catechu, but is more red and astringent. Great part of it dissolves readily in the mouth, discovering a strong but grateful astringency. The red astringent gum from New South Wales is very similar to kino.

It has been useful in some uterine hæmorrhages, particularly after child-bearing.

It is soluble in aqueous and spirituous menstrua. The Edinburgh college have now received this gum as an officinal, and have directed a tincture, in which two ounces of it are dissolved in a pound and an half of proof spirit. One part of kino united with three parts of âlum, Dr. Cullen says, has proved one of the most powerful astringents with which he was ever acquainted. This composition may be given from five to fifteen grains or more every four hours in uterine and pulmonary hæmorrhage. Forty grains of gum arabic added to 3j. of kino and a proper quantity of syrup of white poppy, forms an agreeable astringent linetus; of which a tea-spoonful may be taken occasionally.

It is recommended in *disorders from laxity and acrimony, habitual diarrhæas, fluor albus, and seminal weaknesses*.

MED. VIRT. *Astringent*.

PREP. *Tincture — Styptic Powder*.

LAC. Milk.

Milk appears to be a vegetable juice, with little or nothing of an animal nature. The quality and uses of this soft nutritious liquor are in general well known: we shall therefore, in this place, only give an account of some experiments, pointing out the alterations it undergoes from different admixtures, and the difference in quality of the milk of different animals.

New milk mixes uniformly with common water, the mineral chaly-

beate waters, wines and malt liquors that are not acid, weak vinous spirits, solutions of sugar, soaps, and neutral salts; but not with oils expressed or distilled. Acids both mineral and vegetable coagulate it; as also do fixt and volatile alkalies, and highly rectified spirit of wine: the curd made by acids is in part resolved again by alkaline liquors, as that made by alkalies is by acids. Neutral salts, nitre in particular, preserve it from coagulating spontaneously; and likewise render it less easily coagulable by acids.

The human milk is the sweetest of these liquors, and that of asses next to it. This latter is the most dilute of them all; on suffering it to coagulate spontaneously, the curd scarce amounted to two drams, from twelve ounces, whilst that of cows' milk was five times as much: the coagulum of asses' milk, even when made by acids, forms only into fine light flakes which swim in the serum; that of goats' milk concretes into more compact masses, which sink.

Upon evaporating twelve ounces of	There remained of dry matter drams.	From which water extracted a sweet saline substance, amounting, when exsiccated, to drams.
Cows' milk	13	1½
Goats' milk	12½	1½
Human milk	8	6
Asses' milk	8	6

The saline substance obtained from asses' milk was white, and sweet as sugar; that of the others brown or yellow, and considerably less sweet; that of cows' milk, the least sweet of all. It appears, therefore, that asses' milk contains more serum, and much more of a saccharine saline matter, than that of cows and goats; and that these two abound most with unctuous gross matter: hence these are found to be most nutritious, whilst the first proves most effectual as an aperient and detergent.

The inspissated residuum of milk, digested with about as much water as was wasted in the evaporation, yields an elegant kind of whey, more agreeable in taste, and which keeps better, than that made in the common manner. This liquor promotes the natural secretions in general, and, if its use be duly continued, does good service in scorbu-

tic, and other disorders proceeding from thick phlegm and obstructions of the viscera.

There are considerable differences in the milk of the same animal, according to its different aliment. Dioscorides relates, that the milk of goats, who feed on the scammony plant and spurges proved cathartic; and examples are given in the *Acta Hassniensia* of bitter milk from the animal's having eaten wormwood. It is a common observation, that cathartics and spirituous liquors given to a nurse affect the child: and that the milk of animals feeding on green herbs is much more dilute than when they are fed with dry ones. Hoffman, from whom most of the foregoing observations are taken, carries this point so far, as to direct the animal to be dieted according to the disease for which its milk is to be drank.

Milk in a medicinal view is con-

sidered as an emollient, an analeptic, and corroborant.—Butter-milk, as containing a sweet and acid, is certainly laxative, though not strongly so without large quantities have been taken.

LACCA, *gummi-resina*: *Croton lacciferum* Lin. Lac, gum-resin.

This is a sort of wax, of a red colour, collected in the East-Indies by certain insects, and deposited on sticks fastened for that purpose in the earth. It is brought over either adhering to the sticks, or in small transparent grains, or in semi-transparent flat cakes: the first is called *stick-lac*, the second *seed-lac*, and the third *shell-lac*. On breaking a piece of stick-lac, it appears composed of regular cells like the honeycomb, with small corpuscles of a deep red colour lodged in them. These are the young insects, and to these the lac owes its tincture; for when freed from them its colour is very dilute. The shell and seed lacs, which do not exhibit any insects or cellular appearance upon breaking, are supposed to be artificial preparations of the other: the seed sort is said to be the stick-lac bruised and robbed of its more soluble parts; and the shell to be the seed lac, melted and formed into cakes. The *stick-lac* therefore is the genuine sort, and ought alone to be employed for medicinal purposes. This concrete is of great esteem in Germany and other countries, for *laxity* and *sponginess* of the gums, proceeding from cold, or a scorbutic habit. For this use the lac is boiled in water, with the addition of a little alum, which promotes its solution: or a tincture is made from it with rectified spirit. This tincture is recommended also internally in the *fluor albus*, and in *rheumatic* and *scorbutic disorders*: it has a grateful smell, and a not unpleasant, bitterish, astringent taste: in the Edinburgh Pharmacopœia, a

tincture is directed to be made with spirit of scurvy-grass. The principal use of lac among us is in certain mechanic arts as a colouring drug, and for making sealing-wax.

MED. VIRT. *Astringent*.

PREP. *Tincture*.

LACTUCA VIROSA. Lin.

Strong-scented Lettuce [L.]

The upper leaves of this plant are jagged about the edges, the lower are not. In Britain it is indigenous, found in hedges and by the side of ditches, and flowers in June. It differs widely in its quality from the garden lettuce; it smells strongly of opium, and appears to participate in no small degree of its virtues: the narcotic powers reside in its milky juice. It is said to *quench thirst*, to be *greatly laxative*, *powerfully diuretic*, somewhat *diaphoretic*, and not disagreeable to the stomach; but during its operation plentiful dilution is allowed. It is given in form of inspissated juice, in small doses, and recommended in dropries: though in that disease of long standing from visceral obstructions, it has been administered to the quantity of half an ounce in the day. Out of twenty-four dropical patients, according to the account of Dr. Collin of Vienna, twenty-three were cured.

MED. VIRT. *Diuretic* — *Diaphoretic* — *Laxative*.

PREP. *Inspissated Juice*.

LADANUM [L.]

This is a resinous substance exuding upon the leaves of the *cistus Cretica* Lin. This resin is said to have been formerly collected from the beards of goats who browsed the leaves of the cistus: at present, a kind of rake, with several straps or thongs of skins fixed to it, is drawn lightly over the shrub, so as to take up the unctuous juice, which is afterwards scraped off

with knives. It is rarely met with pure, even in the places which produce it; the dust, blown upon the plant by the wind, mingling with the tenacious juice. The inhabitants are also said to mix with it a certain black sand. In the shops two sorts are met with: the better (which is very rare) is in dark-coloured, almost black masses, of the consistence of a soft plaster, which grows still softer upon being handled; of a very agreeable smell, and of a light pungent bitterish taste: the other sort is harder, not so dark-coloured, in long rolls coiled up: this is of a much weaker smell than the former, and has a large admixture of a fine sand, which in the ladanum examined by the French academy made up three-fourths of the mass. Rectified spirit of wine almost entirely dissolves pure ladanum, leaving only a small portion of gummy matter which has no taste or smell: and hence this resin may be thus excellently purified for internal purposes. This is only used externally; the emplastrum ladani forms an elegant stomach plaster, and from its moderate adhesive quality easily admits of being taken off, to renew the volatile essentials.

LAMII ALBI folia, flores: White archangel, or dead nettle; the leaves and flowers.

This grows wild in hedges; and flowers in April and May. The flowers have been particularly celebrated in uterine fluors, and other female weaknesses, as also in disorders of the lungs; but they appear to be of very weak virtue.

LAPATHUM. Dock; the roots.

We have ten or eleven docks growing wild in England, the roots of most of which are brought to market promiscuously; though two have been generally directed by physicians in preference to the others. These are:

OXYLAPATHUM: *Rumex ac-*

utus Lin. The dock with long, narrow, sharp-pointed leaves, not curled up about the edges. [E.]

HYDROLAPATHUM: *Rumex aquaticus* Lin. The great water-dock [E.]

The leaves of the docks gently loosen the belly, and have sometimes been made ingredients in decoctions for removing a costive habit. The roots are celebrated for the cure of scorbutic and cutaneous disorders, both exhibited internally, and applied externally in ointments, cataplasms, and fomentations. — Muntingius published a treatise on these plants in the year 1681, in which he endeavours to prove, that our great water-dock is the *berba Britannica* of the ancients: and indeed the description which Dioscorides gives of the latter, does not ill agree to the former. This author therefore attributes to the *hydrolapathum* all the virtues ascribed of old to the *Britannica*, particularly recommending it in the scurvy and all its symptoms. Where this disorder is of very long standing, so as not to yield to the *hydrolapathum* alone, he directs a composition, by the use of which, he says, even the venereal lues will, in a short time, be effectually cured. Six ounces of the roots of the water-dock, with two of saffron; and of mace, cinnamon, gentian root, liquorice root, and black pepper, each three ounces (or, where the pepper is improper, six ounces of liquorice), are to be reduced into coarse powder, and put into a mixture of two gallons of wine, with half a gallon of strong vinegar, and the yolks of three eggs; and the whole digested, with a moderate warmth, for three days, in a glazed vessel, close stopp'd: from three to six ounces of this liquor are to be taken every morning on an empty stomach, for fourteen or twenty days, or longer.

It has been considered as a powerful antiscorbutic, taken internally; and a strong decoction of it is said to put a stop to eating ulcers in the mouth and tonsils, cures spongy gums, &c. BOERHAAVE, from his own experience, extols it as useful in scorbutic, rheumatic, and cutaneous disorders; also in disorders from obstructed viscera. It is said to have been evidently useful in assisting the stomach in the office of digestion; and the root dried and powdered is reported to be a powerful antiseptic. This has also been recommended as an excellent dentrifice. Should the powder be disagreeable to the stomach, a decoction of half a pound of the bark of the root boiled in six pints of water till reduced to four, will answer every purpose; of which half a pint should be taken warm four times a day. — However, notwithstanding the high character it has maintained, there are some physicians who do not think it materially differs from other astringents; and are therefore very doubtful about the great virtues ascribed to it.

MED. VIRT. *Alterant and Laxative.*

LA V E N D U L Æ *flores*: *Lavendula spica* Lin. Lavender; the flowers [E. L.]

There are different varieties of these plants; but all have a fragrant smell, and a warm, pungent, bitterish taste: the broad-leaved sort is the strongest in both respects, and yields in distillation thrice as much essential oil as the other; its oil is also hotter, and specifically heavier. Hence in the southern parts of France, where both kinds grow wild, this only is made use of for the distillation of what is called oil of spike. The narrow-leaved is the sort commonly met with in our gardens.

Lavender is a warm aromatic; and, whether given internally, or ex-

ternally applied, it is a powerful stimulant to the nervous system. It is principally recommended in *vertigoes, palsies, tremors, suppression of the menstrual evacuations*; and in general in all disorders of the head, nerves, and uterus, proceeding from a weakness of the solids, and lentor or sluggishness of the juices. It is sometimes also used externally in fomentations for *paralytic limbs*. The distilled oil is particularly celebrated for *destroying the pediculi inguinales* and other cutaneous insects. If soft spongy paper dipt in this oil, either alone, or mixed with that of almonds, be applied at night to the parts infested by insects, they will certainly, says Geoffroy, be all found dead in the morning.

MED. VIRT. *Cordial—Aromatic—Nervous—Stimulant.*

PREP. *Spirit—Compound Spirit—Essential Oil.*

LAURI *folia, bacca*: *Lauri nobilis* Lin. The bay-tree; its leaves and berries [L. E.]

These are generally brought from the Straits, though the tree bears the colds of our own climate. They have a moderately strong aromatic smell, and a warm, bitterish, pungent taste: the berries are stronger in both respects than the leaves, and afford in distillation a larger quantity of aromatic essential oil; they yield also an almost insipid oil to the press, in consequence of which they prove unctuous in the mouth. These simples are warm *carminative medicines*, and sometimes exhibited in this intention against *flatulent colics*; and likewise in *hysterical disorders*.

Bergius, who recommends them only in hysterics, considers them also as *stomachic, resolvent, emmenagogue, diuretic, and diaphoretic*. Indeed they have long been thought to act with peculiar power on the uterine system, and therefore are we cautioned against their use in

pregnancy. However, they are seldom used but in fomentations and cataplasms.

MED. VIRT. *Carminative* and *Antispasmodic*.

PREP. *Essential Oil*—Dose, one to five drops.

LENTISCUS: *Pistachia Lentiscus* Lin. The lentisc, or mastich tree; the wood.

This tree, or shrub, is a native of the warm climates, but bears the common winters of our own. The wood is brought to us in thick knotty pieces, covered with an ash-coloured bark, and white within, of a rough, somewhat pungent, taste, and an agreeable though faint smell; the smaller tough sprigs are both in taste and smell the strongest. This wood is accounted a *mild balsamic resirgent*; a decoction of it is in the German ephemerides dignified with the title of *vegetable aurum potabile*, and strongly recommended in *catarrhs, nausea, and weakness of the stomach*; for *strengthening the tone of the viscera in general*, and *promoting the urinary secretion*.

This is the tree which in the island Chio affords the resin called mastich. See MASTICHE.

MED. VIRT. *Astringent*—*Tonic*—*Diuretic*.

LEVISTICI *radix, semen, herba. Ligusticum Levisticum*. Lovage; the herb, root, and seed [E.]

This is a large umbelliferous plant, cultivated with us in gardens. The root nearly agrees in quality with that of angelica: the principal difference is, that the lovage root has a stronger smell, and a somewhat less pungent taste, accompanied with a more durable sweetness: the seeds are rather warmer than the root. These simples, though certainly capable of being applied to useful purposes, are not at present regarded: neither of them is directed in extemporaneous prescription,

and the root enters no official composition.

MED. VIRT. *Aromatic*.

LICHEN CINEREUS T. R. RESTRIS: *Lichen caninus* L. in. Ash-coloured ground liverwort.

This consists of pretty thick digitated leaves, flat above, of a reticular texture underneath, and fastened to the earth by small fibres: the leaves when in perfection are of an ash-colour; by age they become darker-coloured or reddish. It is met with on commons and open heaths, where it quickly spreads on the ground. Dr. Mead informs us, that this plant grows in all countries, and has been brought over from America along with the Peruvian bark: that it is found at all times, but ought to be gathered from autumn to winter, as being then in its freshest vigour.

This simple is said to be a *warm diuretic*; but the taste discovers in it little or no warmth. It is chiefly celebrated for its virtue in the cure of the disorders occasioned by the bite of a mad dog. An account of the remarkable effects in these cases of a powder composed of the dried leaves and pepper, was communicated to the Royal Society by Mr. Dampier, and published in the Philosophical Transactions, No. 237. This powder was afterwards inserted (in the year 1721) into the London Pharmacopœia, under the title of *pulvis antilyssus*, at the desire of an eminent physician, who had great experience of its good effects. Some years after, the same gentleman published and dispersed a paper containing the method of cure, which he had in a great number of instances constantly found successful. In this paper, the directions were to the following effect: "Let the patient be bled nine or ten ounces; and afterwards take a dram and a half of the powder every morning fasting, for

"four mornings successively, in half a pint of cows' milk, warm. After these four doses are taken, the patient must go into the cold bath, or a cold spring or river, every morning fasting, for a month; he must be dipt all over, but not stay in (with his head above water) longer than half a minute, if the water be very cold: after this he must go in three times a week for a fortnight longer." In the year 1745, the world was favoured with a new edition of the Mechanical Account of Poisons, in which we find the same method of cure again recommended, as having, in a course of thirty years' experience, never failed of success; where it had been followed before the hydrophobia begun. It is greatly to be wished, that the efficacy of this medicine in preventing these terrible disorders were absolutely certain, and proved by incontestable facts. Instances have been produced of its proving unsuccessful; and the many examples of the fatality of the disease which continually occur, seem arguments either of the inefficacy of the medicine, or of a strange negligence in applying it. We shall only further observe, that Boerhaave, who is in general sufficiently liberal in the commendation of remedies, ranks this among those insignificant trifles, upon which whoever shall depend will find himself deceived. — Indeed, from the sensible qualities of this lichen, it does not seem to be possessed of any useful degree of medicinal virtue.

LICHEN ISLANDICUS, *Lin.*
Herba. Eryngo-leaved, or eatable, Liverwort [*E.*]

This is a native of Britain, and grows particularly on the mountains, both in the Lowlands and Highlands of Scotland, and in Wales. It is extremely mucilaginous, has a bitter and somewhat astringent taste, and

is considered as a *laxative in its recent state*; but its bitter and aperient quality is somewhat destroyed by drying, or by slightly infusing in water. The Icelanders make a flour of it called *fielgras*, either by first washing the plant, and cutting it into small pieces, or by drying it by the fire, or in the sun, then putting it into a bag, which is well beaten, and lastly working it into flour by stamping. This forms a tolerably grateful and agreeable food. As a medicine SCOPOLI and HALLER recommended it in *coughs* and *consumptions*, and it has proved efficacious in *diarrhœas* and *dysentery*. Dr. KERR found it so successful in *dysentery*, that, after the repeated administration of emetics and cathartics, he never used any other medicine; to which though he occasionally added opium. Dr. CRICHTON has an high opinion only of it in two species of consumption: the *phthisis hæmoptoica*, and the *phthisis pituitosa vel mucosa*; for by the use of this he has seen patients get so far the better, as to be dismissed from the hospitals cured. It is given in decoction, boiling 3iiss in 2℔. of milk, over a slow fire, exactly one quarter of an hour. If milk disagrees, water may be used. Three or four ounces of this are to be taken frequently in a day. It seems highly probable that it may be useful; for it strengthens the digestive powers, is extremely nutritious, and is possessed of demulcent and inspissating powers.

MED. VIRT. *Nourishing — Anti-septic — Laxative.*

LIGNUM RHODIUM. *Genista canariensis Lin.* [*E.*] Rosewood, a wood or root, brought from the Canary islands.

The writers on botany and the materia medica are much divided about the lignum rhodium, not only with regard to the plant which

affords it, but likewise in their accounts of the drug itself, and have described under this name simples manifestly different. This confusion seems to have arisen from an opinion, that the rhodium and aspalathus are the same; whence different woods brought into Europe for the aspalathus were sold again by the name of rhodium.

As to aspalathus, the ancients themselves disagree; Dioscorides requiring by this appellation the wood of a certain shrub freed from the bark, and Galen the bark of a root. At present, we have nothing under this name in the shops. What was sold among us as aspalathus, was a pale-coloured wood brought from the East Indies, and more commonly called calambour.

The lignum rhodium of the shops is usually in long crooked pieces, full of knots, which, when cut, appear of a yellow colour like box, with a reddish cast; the largest, smoothest, most compact, and deepest coloured pieces should be chosen; and the small, thin, or pale ones rejected. The taste of this wood is lightly bitterish, and somewhat pungent; its smell very fragrant, resembling that of roses: long kept, it seems to lose its smell; but, on cutting, or rubbing one piece against the other, it smells as well as at first. Distilled with water, it yields an odoriferous essential oil, in very small quantity. Rhodium is at present in esteem only upon account of its oil, which is employed as an high and agreeable perfume in scenting pomatums, and the like. But if we may reason from analogy, this odoriferous simple might be advantageously applied to nobler purposes: a tincture of it in rectified spirit of wine, which contains in a small volume the virtue of a considerable deal of the wood, bids fair to prove

a cordial not inferior perhaps to any thing of this kind.

LIGNUM TINCTILE CAMPECHENSE [L. E.] *Hæmatoxyllum campechianum* Lin. Campeachy or logwood; a wood brought from Campeachy in the bay of Honduras.

The wood of this tree is of a solid texture, and of a dark red colour, has an astringent sweet taste, and is brought to us in junks, or logs, of about three feet in length. It was, for a long time, used only by the dyers; but has been brought into medicinal use as an *astringent* and *corroborant*. It has been found peculiarly efficacious in *diarrhæas*, also in the *latter stages of dysentery*, when the obstructing causes are removed; for it obviates the extreme laxity of the intestines usually brought on by the repeated evacuations. It tinges the stools, and sometimes the urine, but does not appear to colour the bones of animals.

MED. VIRT. *Astringent*.

PREP. *Extract*.

LILII ALBI radix, flores: *Lilii candidi* Lin. White lily; the roots and flowers [E.]

This is cultivated in gardens, more for the beauty of its flowers, than medicinal use. The root, which is extremely mucilaginous, boiled with milk or water, has been used as an emollient and suppurating cataplasm; but it is probable that poultices formed of bread, or of farina, possess every property attributed to the white-lily root.

LILII CONVALLIUM radix, flores: *Convallariæ majalis* Lin. Lily of the valley, or May lily; the roots and flowers. This grows wild in woods and shady places, flowering in May.

The flowers of these plants are said to be cephalic and nervine. They have a pleasant sweet smell,

which they impart by infusion to expressed oils, and give over in distillation both to water and spirit; but no essential oil has been hitherto obtained from them. Etmuller says, that the distilled spirit is more fragrant than the water. The roots of the wild lily are very bitter: dried, they are said to prove a gentle errhine; as also the flowers.

MED. VIRT. *Cephalic and nervine.*

LIMONUM *succus, cortex: C. B. Citri medicae Lin.* Lemons; their juice, yellow rind, and its essential oil, called essence of lemons. [L. E.]

The juice of lemons is similar in quality to that of oranges, from which it differs little otherwise than in being more acid. Hence this is employed always where a strong vegetable acid is required. Dr. WHITT found the juice of lemons to allay hysterical palpitations of the heart, after various other medicines had been ineffectual; and also this juice, or that of oranges, taken to the quantity of four or six ounces a day, has sometimes been found a remedy in the jaundice. The yellow peel is an elegant aromatic, and is frequently employed in stomachic tinctures and infusions: it is considerably less hot than orange-peel, and yields in distillation with water less quantity of essential oil. Its flavour is nevertheless more perishable, yet does not arise so readily with spirit of wine; for a spirituous extract made from lemon-peel possesses the aromatic taste and smell of the subject in much greater perfection than an extract prepared in the same manner from the peels of oranges.

MED. VIRT. *Aromatic—Antiscorbutic—Cordial.*

PREP. *Essential oil—Syrup.*

LINGUÆ CERVINÆ *folia: Asplenii Scolopendrii Lin.* Hartstongue: the leaves.

This plant consists of a number

of long narrow leaves, without any stalk: it grows upon rocks and old walls, and remains green all the year. The leaves have a roughish somewhat mucilaginous taste, like that of the maiden-hair, but more disagreeable. They are recommended in *obstructions of the viscera*, and for *strengthening their tone*; and have sometimes been made use of for these intentions, either alone, or in conjunction with maiden-hair, or the other plants called capillary.

MED. VIRT. *Aperient.*

LINI CATHARTICI *folia. Lin.* Purging flax, or mill-mountain; the leaves.

This is a very small plant, not above four or five inches high, found wild upon chalky hills, and in dry pasture-grounds. Its virtue is expressed in its title; an infusion in water or whey of a handful of the fresh leaves, or a dram of them in substance when dried, are said to purge without inconvenience.

MED. VIRT. *Cathartic.*

LINI SATIVI *semen: ustratissimi Lin.* Common flax, the seed, called linseed [L. E.]

Linseed yields to the press a considerable quantity of oil; and, boiled in water, a strong mucilage. Infusions and decoctions of these seeds are commonly made use of, like other vegetable mucilages, in *hoarsenesses, coughs, and pleuritic symptoms*, which frequently prevail in catarrhal affections; they are also recommended in *nephritic pains and stranguries*. One spoonful of the seed unbruised is said to be a proper quantity for one quart of water. The powder of these seeds are employed in *emollient and maturating cataplasms*. The expressed oil is supposed to be of a more healing and balsamic nature than other oils of this class, and therefore has been very generally employed in *pulmonary complaints, also in colics and costiveness*.

They have also been employed in Asia, and, in times of scarcity, in Europe, as food, but are not agreeable, or in general wholesome. Tragus relates, that those who fed on these seeds, in Zealand, had the hypochondres much distended, and the face and other parts swelled, in a short time; and that not a few died of these complaints.

MED. VIRT. *Emollient.*

PREP. *Expressed oil — Infusion — and Decoction.*

LOBELIÆ radix: *Lobelia* [E.] *Lobelia siphilitica* Lin. Blue Cardinal-Flower.

The whole plant has a milky juice, and something of a rank smell. It grows in moist places in Virginia, and bears the winters of our climate.

The root of this plant consists of white fibres, a line in thickness, and about two inches in length. It resembles tobacco in taste, which dwells on the tongue, and is apt to excite vomiting. It was long a famous secret among the North American Indians for the cure of the venereal disease. The secret was purchased by Sir William Johnson, and has been made public in the writings of Bartram, Kalm, and others.

A decoction is made of a handful of the roots in three measures of water. Half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effects become too violent, when the medicine is a for a time to be intermitted, and then renewed till a perfect cure be effected. One dose daily is sufficient during the latter part of the treatment; and the regimen, during the whole process, is to be equally strict with that observed in a course of mercurial salivation. From the third day, the ulcers are to be well washed twice daily with the decoction; and it is said that, when they are very deep

and foul, the Indians sprinkle them with powder of the internal bark of the *ceanothus americanus*, the New-Jersey tea-tree.

Notwithstanding the character this plant bears, it has never been confirmed in Britain, nor even in Virginia; for in both countries recourse is almost universally had to mercury in the lues.

MED. VIRT. *Alterant and detergent.*

PREP. *Decoction.*

LOPEZIANA Indica Radix: *e Janne Lopez denominata, Gaubii Adversar.* Cap. VI. The root of an unknown tree brought to us from Batavia. It is met with in pieces of different thickness and diameter. The woody part is whitish, and very light; softer, more spongy, and whiter next the bark, including a denser, somewhat reddish medullary part.

The bark is rough, wrinkled, brown, soft, and as it were woolly, pretty thick, covered with a thin paler cuticle.

It has no remarkable smell or taste. On boiling in water, no odour is emitted; and the strained liquor, which is of a yellow hue, is almost insipid, only impressing the tongue with a very light obscure bitterishness; and without viscosity. Rectified spirit is tinged by this root of a brown colour, but acquires no particular taste.

It is regarded in the East Indies as a medicine of extraordinary efficacy in *diarrhæas*; and the learned Gaubius in his *Adversaria* has published an account of some experiments made with it, which in some degree confirm its reputation.

MED. VIRT. *Tonic.*

LUJULÆ folia: *Oxalis Acetosella* Lin. Wood sorrel; the leaves [L. E.]

This is a small plant, growing wild in woods. In taste and medicinal qualities it is similar to the

common sorrel, but considerably more grateful, and hence is preferred by the London college. Boiled with milk, it forms an agreeable whey; and beaten with sugar, a very elegant conserve, which has been for some time in the shops. (See ACETOSA.)

It is used to cool the mouth, fauces, and primæ viæ, in bilious remitting fevers, and also employed with medicines of the tonic and antiscorbutic class.

MED. VIRT. *Astringent — Antiscorbutic.*

PREP. *Whey — Conserve.*

LUPINI *albi semen: Lin.*
White lupins; the seeds.

These have a leguminous taste, accompanied with a disagreeable bitter one. They are said to be anthelmintic, both internally taken, and applied externally.

MED. VIRT. *Anthelmintic.*

LUPULUS: *Humulus Lupulus Lin.* Hops; the loose leafy heads on the tops of the stalks.

These form one of the most agreeable of the strong bitters, and have a warm aromatic taste, though rarely employed for any medicinal purposes. Their principal consumption is in malt liquors, which they render less glutinous and dispose to pass off more freely by urine.

The Spaniards order one pound of hop-roots to be boiled in a gallon of water till it is reduced to six pints, half a pint of which they drink every morning in bed for the cure of the *lues venerea*.

MED. VIRT. *Stomachic — Diuretic.*

LYCOPERDON: *Lycoperdon Bovista Lin.* Puff-ball, or dusty Mushroom.

This fungus is found in dry pasture grounds. It seems to be nearly of the same quality with the agaric of the oak, and has, like it, been employed for restraining external hæmorrhages and other fluxions. The

fine dust, with which it becomes filled by age, has been applied also in the same intentions.

MED. VIRT. *Styptic.*

MACIS [*L. E.*] Mace; one of the coverings of the nutmeg (See *Nux moschata*). This spice, considered as the subject both of medicine and of pharmacy, agrees nearly with the nutmeg. The principal difference is, that mace is somewhat less astringent, yields to the press a more fluid oil, and in distillation a more volatile one. What is called in the shops expressed oil of mace, is prepared not from this spice, but from the nutmeg.

MED. VIRT. *Aromatic.*

MAJORANÆ *Herba: Origani Majorana Lin. S. P.* Sweet marjoram; the herb [*L. E.*]

Marjoram is raised annually in our gardens for culinary as well as medicinal uses; the seeds are commonly procured from the southern parts of France, where the plant grows wild. It is a moderately warm aromatic, yielding its virtues both to aqueous and spirituous liquors by infusion, and to water in distillation. It is principally celebrated in disorders of the head and nerves, and in the humoral asthma and catarrhs of old people. An essential oil of the herb is kept in the shops. The powder of the leaves proves an agreeable errhine, and enters the officinal sternutatory powder.

MED. VIRT. *Aromatic — Errhine.*

MALVÆ *folia, flores: Malva sylvestris Lin. S. P.* Mallow; the leaves and flowers [*L. E.*]

These have a somewhat mucilaginous sweetish taste. The leaves are ranked the first of the four emollient herbs: they were formerly of some esteem, in food, for loosening the belly; at present, decoctions of them are sometimes employed in dysenteries, heat and

sharpness of urine, and in general for obtunding acrimonious humours.

MED. VIRT. *Emollient.*

MALA. Apples.

All the sorts of apples have the common quality of cooling and abating thirst: the more acid kinds loosen the belly; the austere have rather a contrary effect.

MED. VIRT. *Cooling and laxative.*

MANNA [*L. E.*] *Ex Fraxino Orno Lin.* The juice of certain trees of the ash kind (growing in Italy and Sicily), either naturally concremented on the plants, or exsiccated and purified by art. There are several sorts of manna in the shops. The larger pieces, called *flake manna*, are usually preferred; though the smaller grains are equally as good, provided they be white, or of a pale yellow colour, very light, of a sweet not unpleasant taste, and free from any visible impurities. Some people injudiciously prefer the fat honey-like manna to the foregoing: this has either been exposed to a moist air, or damaged by sea or other water. This kind of manna is said to be sometimes counterfeited by a composition of sugar and honey, mixed with a little scammony: there is also a *fastitious manna*, which is white and dry, said to be composed of sugar, manna, and some purgative ingredient, boiled to a proper consistence; this may be distinguished by its weight, solidity, untransparent whiteness, and by its taste, which is different from that of manna.

Manna is a *mild, agreeable laxative*, and may be given with safety to children and pregnant women: nevertheless, in some particular constitutions, it acts very unkindly, producing flatulencies and distension of the viscera; these inconveniences may be prevented by the addition of any grateful warm aromatic. Manna operates so weak-

ly, as not to produce the full effect of a cathartic, unless taken in large doses; and hence it is rarely given in this intention by itself. It may be commodiously dissolved in the purging mineral waters, or joined to the cathartic salts, senna, rhubarb, or the like. Geoffroy recommends acuating it with a few grains of emetic tartar; the mixture is to be divided into several doses, each containing one grain of the emetic tartar: by this management, he says, bilious serum will be plentifully evacuated, without any nausea, gripes, or other inconvenience. It is remarkable, that the efficacy of this drug is greatly promoted (if the account of Vallisnieri deserves credit) by a substance which is itself very slow of operation, casia, (See CASIA.)

MED. VIRT. *Laxative.*

MARRUBII *folia: Marrubii albi vulgaris Lin. S. P.* White horehound; the leaves [*L. E.*]

These have a very strong, not disagreeable smell, and a roughish very bitter taste. Besides the virtues which they possess in common with other strong bitters, they are supposed to be peculiarly serviceable in *humoural asthmas and coughs, cachexy, hysteria, the yellow jaundice proceeding from a viscosity of the bile, and other chronic disorders.* They are doubtless an useful aperient and deobstruent, promote the fluid secretions in general, and, liberally taken, loosen the belly.

Its dose in powder, πj ; expressed juice a spoonful or two; infusion, half an handful.

MED. VIRT. *Tonic and diuretic.*

MARI SYRIACI *folia: Teucrium Marum Lin.* Syrian herb marsh-mastic; the leaves [*L. E.*]

This is a small shrubby plant, growing spontaneously in Syria, Candia, and other warm climates, and cultivated with us in gardens. The leaves have an aromatic bitter-

ish taste; and, when rubbed betwixt the fingers, a quick pungent smell, which soon affects the head, and occasions sneezing: distilled with water, they yield a very acrid, penetrating essential oil, resembling one obtained by the same means from scurvy-grass. These qualities point out the uses to which this plant might be applied; at present, it is little otherwise employed than in cephalic snuffs. It is an ingredient in the *pulvis asari comp.* of the London Pharmacopœia.

MED. VIRT. *Aromatic—Eryhine.*

MASTICHE [L. E.] *Pistachia Lentiscus* Lin. S. P. Mastich; a resin exuding from the lentisc tree (see *LENTISCUS*), and brought from Chio, in small, yellowish transparent grains or tears, of an agreeable smell, especially when heated or set on fire. This resin is recommended in *old coughs, dysenteries, hæmoptois, weakness of the stomach*, and, in general, *in all debilities and laxity of the fibres*. Geoffroy directs an aqueous decoction of it to be used for these purposes: but water extracts little or nothing from this resin; rectified spirit almost entirely dissolves it. The solution tastes very warm and pungent. It is now, though, very rarely prescribed.

MED. VIRT. *Corroborant.*

MATRICARIÆ *folia, flores: Matricariæ Parthenii* Lin. Common wild featherfew or feverfew; the leaves and flowers.

This plant is a celebrated *antihysteric*. Simon Paulli relates, that he has experienced most happy effects from it in *obstructions of the uterine evacuations*. I have often seen, says he, from the use of a decoction of *matricaria* and *chamomile* flowers with a little mugwort, hysteric complaints instantly relieved, the discharge succeed plentifully, and the patient, from a lethargic state, return as it were into life again. *Matricaria* is likewise re-

commended in many other disorders, as a warm stimulating bitter: all that bitters and carminatives can do, says Geoffroy, may be expected from this. It is undoubtedly a medicine of some use in these cases, though not perhaps equal to *chamomile* flowers alone, with which the *matricaria* agrees in sensible qualities, except in being weaker.

MED. VIRT. *Aperient—Antispasmodic.*

MECHOACANNÆ *radix: Convolvuli Mechoacannæ* Lin. The root of an American convolvulus, brought chiefly from Mechoacan, a province of Mexico, in thin slices like jalap, but larger, and of a whitish colour. It was first introduced among us (about the year 1524) as a *purgative* universally safe, and capable of evacuating all morbid humours from the most remote parts of the body. As soon as jalap became known, Mechoacan gradually lost its reputation, which it has never since been able to retrieve. It is nevertheless by some still deemed an *useful cathartic*. It has very little smell or taste, and is not apt to offend the stomach; its operation is slow, but effectual and safe. Geoffroy affirms, that there is scarce any purgative accompanied with fewer inconveniencies. It seems to differ from jalap only in being weaker; the resins obtained from both have nearly the same qualities, but jalap yields five or six times as much as Mechoacan. Hence it is found necessary to exhibit the latter in six times the dose of the former, to produce the same effects.

MED. VIRT. *Cathartic.*

MEL [L. E.] Honey.—Honey is a vegetable juice, obtained from the honey-comb, either by separating the combs, and laying them flat upon a sieve, through which the honey spontaneously percolates; or by including the comb in can-

vas bags, and forcing the honey out by a press. The former sort is the purer; the latter is found to contain a good deal of the matter of which the comb is formed, and many other impurities. There is another sort still inferior to the two foregoing, obtained by heating the combs before they are put into the presses. The best sort is thick, of a whitish colour, an agreeable smell, and a very pleasant taste: both the colour and flavour differ according to the plants from which the bees collect it: that of Narbonne in France, where rosemary abounds, is said to have a very manifest flavour of that plant, and to be imitable by adding to other honey an infusion of rosemary flowers. Honey, considered as a medicine, is a very useful detergent and aperient, powerfully dissolving viscid juices, and promoting the expectoration of tough phlegm. Honey has been said to have afforded great benefit to some asthmatic people, but then it has been administered in the quantity of some ounces in the day; hence it is advised, where good effects are wished to be produced, to be used to a considerable extent as an article of diet. In some particular constitutions it has an inconvenience of griping or proving purgative; this is said to be in some measure prevented by previously boiling the honey.

MED. VIRT. *Aperient and detergent.*

MELILOTI folia, flores: Trifolii Meliloti officinalis Lin. Melilot; the leaves and flowers.

This grows wild in hedges and among corn; and has likewise, for medicinal uses, been cultivated in gardens. The green herb has no remarkable smell; when dry, a pretty strong one: the taste is roughish, bitter, and, if long chewed, nauseous. A decoction of this herb has been recommended in inflammations of the abdomen; and a

decoction of the flowers in the *fluor albus*. But modern practice rarely employs it any otherwise than in emollient and carminative glysters, and in fomentations, cataplasms, and the like; and in these not often. It formerly gave name to one of the official plasters, which received from the melilot a green colour, but no virtue.

MED. VIRT. *Emollient — Carminative.*

MELISSÆ folia: Melissa officinalis Lin. Balm; the leaves [*L. E.*]

This plant, when in perfection, has a pleasant smell, somewhat of the lemon kind: and a weak roughish aromatic taste. The young shoots have the strongest flavour: the flowers, the herb itself when old, or produced in very moist rich soils or rainy seasons, are much weaker both in smell and taste. Balm is appropriated, by the writers on the *Materia Medica*, to the head, stomach, and uterus; and in all disorders of these parts is supposed to do extraordinary service. So high an opinion have some of the chemists entertained of balm, that they have expected to find in it a medicine which should prolong life beyond the usual period. The present practice, however, holds it in no great esteem, and ranks it (where it certainly deserves to be) among the weaker corroborants. In distillation, it yields an elegant essential oil, but in exceeding small quantity; the remaining decoction tastes roughish. Strong infusions of the herb, drunk as tea, and continued for some time, have done service in a weak lax state of the viscera: these liquors, lightly acidulated with juice of lemons, turn of a fine reddish colour, and prove an useful, and to many a very grateful drink, in dry parching fevers. It is chiefly used in infusion as a diluent in acute febrile affections, and, when acidulated with lemon-juice, makes a very pleasant drink.

MED. VIRT. *Aromatic.*

MELONUM *semen Cucumis melo Lin.* Melons: the seeds. These stand among the four greater cold seeds. They have been sometimes used, with the others of that class, as cooling and emollient; but are at present little taken notice of.

MED. VIRT. *Refrigerant and emollient.*

MENTHÆ PIPERITIDIS *herba: Mentha piperita Lin. S. P.* Peppermint; the herb [L. E.] This plant grows wild in some parts of England, in moist watery places, but is much less common than the other sorts. The leaves have a more penetrating smell than any of the other mints, and a much warmer, pungent, glowing taste like pepper, sinking as it were into the tongue. The principal use of this herb is in *flatulent colics, languors, hysterical affections, retchings,* and other *dyspeptic symptoms*, acting as a cordial, and often producing immediate relief, from its stomachic, antispasmodic, and carminative qualities. It seems to act as soon as taken, and extend its effects through the whole system, instantly communicating a glowing warmth. Water extracts the whole of the pungency of this herb by infusion, and elevates it in distillation.

MED. VIRT. *Aromatic — Cordial.*

PREP. *Distilled water — Spirit — Essence — Essential oil.*

MENTHÆ SATIVÆ *folia: Mentha viridis Lin. S. P.* Garden or spearmint; the leaves [L. E.]

The leaves of mint have a warm, roughish, somewhat bitterish taste; and a strong, not unpleasant, aromatic smell. Their virtues are those of a *warm stomachic and carminative*: in *loss of appetite, nausea, continual retchings to vomit*, and (as Boerhaave expresses it) *almost all paralytic weaknesses of the stomach*, there are few simples perhaps of equal efficacy. In *colicky pains*, the

gripes to which children are subject, lenteries, and other kinds of immoderate fluxes, this plant frequently does great service. It likewise proves beneficial in many *hysterical cases*, and affords an useful cordial in *languors and other weaknesses* consequent upon delivery. The same virtues are in fact to be attributed to the *mentha sativa*, as to the *piperitis*, though perhaps its powers may be less efficacious. Dr. CULLEN says "It acts very powerfully on the parts to which it is applied immediately, and therefore considerably on the stomach; invigorating all its functions. It acts especially as an antispasmodic, and therefore relieves pain and colic depending upon spasm. It will also stop vomiting depending upon such a cause; but there are many cases of vomiting in which it is of no service; and in these cases, any wise depending upon inflammatory irritation in the stomach itself or in other parts of the body, it aggravates the disease, and increases the vomiting. As for its possessing the power of resolving coagulated milk in the breasts, or being an antaphrodisiac, he considers it as possessing no such powers." The best preparations are a *strong infusion made from the dry leaves in water* (which is much superior to one from the green herb), or rather a tincture or extract prepared with rectified spirit. These possess the whole virtues of the mint. The essential oil and distilled water contain only the aromatic part; the expressed juice only the astringency and bitterishness, together with the mucilaginous substance common to all vegetables.

MED. VIRT. *Aromatic — Cordial.*

PREP. *A distilled Water — Spirit — Essential Oil — Essence.*

MERCURIALIS *herba: Mercurialis annua Lin.* Herb mercury.

This stands among the five emol-

lient herbs; and in this intention is sometimes made use of in glysters.

There is another sort of mercurialis growing in woods and hedges, which, though recommended by some botanic writers, as having the same virtues with the foregoing, and as more palatable, has been found possessed of noxious qualities. (See *Rati Synops.* edit. 3. page 138. *Phil. Trans. abr.* Lowthorp. ii. 640.) This may be distinguished from the foregoing, by its being a perennial plant, larger, having its leaves rough, and the stalk not at all branched, and is commonly called with us dog's mercury.

MED. VIRT. *Emollient — Laxative.*

MEI ATHAMANTICI radix: Æthuse Mei Lin. Spiguel; the root.

Spiguel is an umbelliferous plant, found wild in Italy, and the warmer parts of Europe, and sometimes also in England. The roots have a pleasant aromatic smell, and a warm, pungent, bitterish taste: in virtue they are similar to the *levisticum*, from which this root seems to differ only in being weaker, and somewhat more agreeable. It is an useful aromatic and carminative, though at present little regarded.

MED. VIRT. *Aromatic — Carminative.*

MEZEREI radice cortex: Daphnes Mezerei Lin. Mezereon, or spurge-olive; bark of the root [*L. E.*]

This shrub is a native of England, and found wild in the woods of some counties. It is said to grow plentifully in some woods near Andover in Hampshire, and also about Laxfield in Suffolk; but it is generally cultivated in gardens, on account of the beauty and early appearance of its flower, which is of a purple colour, sometimes pale red and white, blowing in February and March, sometimes earlier, and has the smell of an hyacinth. This plant is extremely acrid, especially

when fresh; and, if retained in the mouth, excites great and long-continued heat and inflammation, particularly of the throat and fauces. In France the bark is recommended as an application to the skin, which under certain management produces a continued serous discharge, without blistering, and is thus rendered useful in many chronic diseases of a local nature.

The bark of the root is the part chiefly in use, two drams of which with half an ounce of bruised liquorice are boiled in three pints of water till reduced to two; of this from four to eight ounces are taken four times a day. This has been found very efficacious for resolving venereal nodes and the thickening of the membrane covering the pericæum from other causes. It is said also to cure other remains of the venereal disease, which mercury in large quantities had failed to do. Dr. CULLEN found a case of ulcerations in many different parts of the body, where mercury had failed, entirely cured by the use of mezereon decoction for two or three weeks. Dr. HOME has not only found this decoction cure scirrhus tumours remaining after the venereal disease, and after the use of mercury, but that it healed some scirrhus tumours from other causes: and CULLEN has frequently employed it in several cutaneous eruptions, and sometimes with success. The considerable and long-continued irritation produced in the throat when mezereon is chewed, induced Dr. Withering to order a patient troubled with a difficulty of swallowing, seemingly occasioned by a paralytic affection, to chew a thin slice of the root as often as she could bear it; by which in about a month she recovered her power of swallowing, though the complaint had been of three years' standing.

MED. VIRT. *Stimulant and cathartic.*

MILII semen: Panici miliacei Lin. Millet; the seed.

These seeds are frequently employed in food, but hardly ever as medicines: they are sufficiently nutritious, and not difficult of digestion.

MILLEFOLII folia: Achilleæ Millefolii Lin. Milfoil, or yarrow; the leaves [E.]

This grows plentifully about the sides of fields, and on dry commons, flowering during the greatest part of the summer. The leaves have a rough bitterish taste, and a faint aromatic smell. Their virtues are those of a very mild astringent, and as such they stand recommended in hæmorrhages both internal and external, diarrhæas, debility and laxity of the fibres; and in spasmodic hysterical affections. In these cases, some of the Germans have a very high opinion of this herb, particularly Stahl, who esteemed it a very effectual astringent, and, in his language, one of the most certain tonics and sedatives. Its virtues are extracted in great perfection by proof spirit; water takes up its astringency and bitterness, but little of its aromatic flavour; tinctures made in rectified spirit contain both, though rather weaker than those in proof-spirit.

The flowers of milfoil are considerably stronger in aromatic flavour than the leaves; in distillation, they yield a small quantity of essential oil, of an elegant blue colour.

The roots, taken up in the spring, have an agreeable warm, pungent taste. Dr. Grew says they resemble *contrayerva*, and imagines they might in some measure supply its place. This, however, is greatly to be doubted, since there is such a remarkable difference betwixt the two, that, whilst one retains its taste for a length of time

after it has been brought to us from America, the taste of the other is in great measure lost by drying.

MED. VIRT. Mildly astringent and aromatic.

MILLEPEDÆ [L. E.] *Oniscus Asellus* L. S. N. Woodlice, hoglice, flaters.

These insects are found in cellars, under stones, and in cold moist places; in the warmer countries they are rarely met with. Millepedes have a faint disagreeable smell, and a somewhat pungent, sweetish, nauseous taste. They have been highly celebrated in suppressions of urine, in all kinds of obstructions of the bowels, in the jaundice, weakness of sight, and a variety of other disorders. Whether they have any just title to these virtues, is greatly to be doubted: thus much is certain, that their real effects come far short of the character usually given of them. They have been swallowed in large numbers, an hundred twice a day, without producing any effect on the urinary passages, or doing any service to the complaint for which they were administered; they therefore are not now much depended on.

MED. VIRT. Diuretic — Deobstruent.

PREP. Dried and powdered — Wine.

MORI fructus: Morinigræ. The mulberry tree; its fruit [L.]

This tree is a native of Italy, but now cultivated in most parts of Europe, not only for the grateful fruit it affords, but for the purpose of supplying silk-worms with the leaves, upon which they feed. Its fruit is rather eaten for pleasure than used as a medicine; it has the common qualities of the other sweet fruits, abating heat, quenching thirst, and promoting the grosser secretions. The bark of the roots has an acrid, bitter taste, and possesses a cathartic

power. It has been successfully used as a vermifuge, particularly in cases of tænia. Dose, half a dram of the powder.

MED. VIRT. FRUIT — *Refrigerant* — BARK OF THE ROOT — *Anthelmintic* — *Cathartic*.

PREP. Syrup.

MOSCHUS [L. E.] *Moschus moschiferus* Lin. S. N. Musk.

Musk is a grumous substance like clotted blood, found in a little bag situated near the umbilical region of a particular kind of animal met with in China, Tartary, and the East-Indies: the best musk is brought from Tonquin, an inferior sort from Agria and Bengal, and a still worse from Russia.

Fine musk comes to us in round thin bladders, which are generally about the size of a pigeon's egg, covered with short brown hairs, well filled, and without any appearance of having been opened. The musk itself is dry, with a kind of unctuousity, of a dark reddish brown or rusty blackish colour, in small round grains, with very few hard black clots, and perfectly free from any sandy or other visible foreign matter. If chewed, and rubbed with a knife on paper, it looks smooth, bright, yellowish, and free from grittiness. Laid on a red-hot iron, it catches flame, and burns almost entirely away, leaving only an exceeding small quantity of light greyish ashes. If any earthy substances have been mixed with the musk, the quantity of the residuum will readily discover them.

Musk has a bitterish subacid taste; a fragrant smell, agreeable at a distance, but when smelt near, so strong as to be disagreeable, unless weakened by the admixture of other substances. If a small quantity be infused in spirit of wine in the cold for a few days, it imparts a deep, but not red tincture:

this, though it discovers no great smell of the musk, is nevertheless strongly impregnated with its virtues; a single drop of it communicates to a whole quart of wine a rich musky flavour. The degree of flavour which a tincture drawn from a known quantity of musk communicates to vinous liquors, is perhaps one of the best criteria for judging of the goodness of this commodity. Neumann informs us, that spirit of wine dissolves ten parts out of thirty of musk, and that water takes up twelve; that water elevates its smell in distillation, whilst pure spirit brings over nothing.

Musk is a medicine of great esteem in the eastern countries; among us, it has been for some time pretty much out of use, even as a perfume, on a supposition of its occasioning vapours, &c. in weak females, and persons of a sedentary life. It appears, however, from late experience, to be, when properly managed, a remedy of great service even against those disorders which it has been supposed to produce. Dr. Wall has communicated (in the Philosophical Transactions, N^o 474) an account of some extraordinary effects of musk in convulsive and other diseases, which have too often baffled the force of medicine. The doctor observes, that the smell of perfumes is often of disservice, where the substance taken inwardly, and in considerable quantity, produces the happiest effects: that two persons labouring under a *subsultus tendinum*, extreme anxiety, and want of sleep, from the bite of a mad dog, by taking two doses of musk, each of which was sixteen grains, were perfectly relieved from their complaints. He likewise observes, that convulsive hiccups, attended with the worst symptoms, were removed by a dose or two, of ten grains:

and that in some cases, where this medicine could not, on account of strong convulsions, be administered to the patient by the mouth, it proved of service when injected as a glyster. He likewise adds, that, under the quantity of six grains, he never found much effect from it; but that, taken to ten grains and upwards, it never fails to produce a mild diaphoresis, without at all heating or giving any uneasiness; that, on the contrary, it *eases pain, raises the spirits*, and, after the sweat breaks out, the patient usually falls into a refreshing sleep; that he never met with any hysterical person, how averse soever to perfumes, but could take it, in the form of a bolus, without inconvenience. To this paper is annexed an account of some further extraordinary effects of musk, observed by another gentleman. Repeated experience has since confirmed its efficacy in these disorders. I have myself frequently given it with remarkable success; and sometimes increased the dose as far as twenty grains, every four hours, with two or three spoonfuls of the musk julep between. Besides what Dr. Wall has said in favour of musk, we shall add Dr. CULLEN's opinion, who maintains that musk is one of the most *powerful antispasmodics* with which we are acquainted. It is most effectual when given in substance, and must be administered in large doses from ten to thirty grains; and even when these large doses are found to be effectual, they must be repeated at short intervals, till the disease is entirely subdued. Musk is to be judged of by the strength of its odour, and, in proportion to this only, to be an effectual remedy. Dr. CULLEN once procured immediate relief to a patient labouring under *severe head-ach and delirium from the gout*, by administering fifteen grains of ge-

nuine musk at a dose. He also relieved a gentleman afflicted *with a spasm of the pharynx, preventing deglutition, and almost respiration*, by musk, when other remedies had failed; and as the disease continued to recur at times for some years after, it was only obviated or relieved by the use of musk. It has given relief in several circumstances *of the gout, when retrocedent, affecting the stomach, lungs, and particularly the head*, when administered in large doses, or at least by repeating them after short intervals. In fine, musk seems to be adapted *to all cases of convulsive disorders* which are to be cured by opiates. In *tetanus* it is combined with opium, in the *rabies canina* with mercury.

MED. VIRT. *Antispasmodic—diaphoretic.*

PRÆP. *Mixture, or Julep.*

MYROBALANI. Myrobalans, dried fruits brought from the East-Indies; their outward part, freed from the stone.

Five kinds of myrobalans were formerly directed as officinals, but are not used in the present practice.

All the myrobalans have a low degree of purgative virtue. They have also an astringent quality, discoverable by the taste, from their use among the Indians for tanning leather, and from their striking a black colour with chalybeate solutions. In consequence of this, they are supposed to *strengthen the bowels after their operation as a cathartic is over*. Nevertheless their purgative virtue is so inconsiderable, that practitioners have for a long time laid them entirely aside in that intention; and the college of Edinburgh, as well as that of London, has now rejected them from the catalogue of officinal simples.

MED. VIRT. *Purgative.*

MYRRHA [L. E.] Myrrh.

Myrrh is a concrete gummy resinous juice brought from the East-

Indies, in small lumps or drops, of various colours and magnitudes. The best sort is of a brown or reddish yellow colour, somewhat transparent; of a lightly pungent, bitter taste, with an aromatic flavour, though not sufficient to prevent its proving nauseous to the palate; and a strong not disagreeable smell. The medical effects of this aromatic bitter are, to warm and strengthen the viscera, and dissolve thick, tenacious juices; it frequently occasions a mild diaphoresis, and promotes the fluid secretions in general.

Hence it proves serviceable in languid cases, diseases arising from a simple inactivity, those female disorders which proceed from a cold, mucous, sluggish disposition of the humours, suppressions of the uterine discharges, cachectic disorders, and where the lungs and thorax are oppressed by viscid phlegm. Myrrh is likewise supposed in a peculiar manner to resist putrefaction in all parts of the body; and in this light stands recommended in malignant, putrid, and pestilential fevers, and in the small pox, in which last it is said to accelerate the eruption.

Given in moderate doses, it promotes appetite and digestion, for it manifestly stimulates the stomach; but taken in larger quantity, as half a dram or two scruples, it raises a disagreeable heat in the stomach; and at the same time occasions a frequency of the pulse, and a sense of heat over the whole body. When therefore administered in consumptions, in some of which cases it has been strongly recommended, it should be given in moderate doses only. It has been speciously proposed, that myrrh in substance should be given to be chewed in the mouth, and no part of it swallowed but what is dissolved in the saliva.

Rectified spirit extracts the fine aromatic flavour and bitterness of

this drug, and does not elevate any thing of either in evaporation. The gummy substance left by this menstruum has a disagreeable taste, with scarce any thing of the peculiar flavour of the myrrh: this part dissolves in water, except some impurities which remain. In distillation with water, a considerable quantity of a ponderous essential oil arises, resembling in flavour the original drug.

MED. VIRT. *Antispasmodic and corroborant.*

PREP. *Tincture.*

NARDUS INDICA: *Andropogon Nardus Lin.* Indian nard, or spikenard, brought from the East-Indies.

This is a congeries of small fibres issuing from one head, and matted close together, so as to form a bunch about the size of the finger, with some small strings at the opposite end of the head. The matted fibres (which are the part chosen for medicinal purposes) are supposed by some to be the head or spike of the plant, by others the root: they seem rather to be the remains of the withered stalks, or the ribs of the leaves. Sometimes entire leaves and pieces of stalks are found among them. We likewise now and then meet with a number of these bunches issuing from one root.

Spikenard has a warm, pungent, bitterish taste; and a strong, not very agreeable smell. It is *stomachic* and *carminative*; and said to be *alexipharmac*, *diuretic*, and *emmenagogue*.

NASTURTII AQUATICI *herba: Sisymbrii Nasturtii Lin. S. P.* Water-cresses: the fresh herb [L.E.]

This plant grows wild in rivulets, and the clearer standing waters; its leaves remain green all the year, but are in greatest perfection in the spring. They have a quick pungent smell (when rub-

bed betwixt the finger(s) and an acrid taste, similar to that of *cochlearia*, but weaker. As to their virtues, they are among the *milder aperient antiscorbutics*. Hoffman has a mighty opinion of this plant, and recommends it as of singular efficacy for *accelerating the circulation, strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the blood and humours*: for these purposes, the expressed juice, which contains the peculiar taste and pungency of the herb, may be taken in doses of an ounce or two, and continued for a considerable time.

The water-creffes are frequently eaten as salad, and taken in this way daily for a considerable time, under the idea of being a good corrector of the blood and humours. The *nasturtium hortense*, or garden-creffes, possess the same virtues, but in a much weaker degree.

MED. VIRT. *Aperient — Antiscorbutic.*

NEPETÆ folia: *Nepetæ Cataria* Lin. Nep, or cat-mint; the leaves.

This plant is commonly cultivated in our gardens, and is sometimes also found growing wild in hedges and on dry banks. It is a moderately aromatic plant, of a strong smell, resembling a mixture of mint and pennyroyal; of the virtues of which it likewise participates.

MED. VIRT. *Aromatic — Cordial.*

NEPHRITICUM LIGNUM: *Guilandina Moringa* Lin. Nephritic wood.

This is an American wood; brought to us in large, compact, ponderous pieces, without knots, of a whitish or pale yellow colour on the outside, and dark-coloured or reddish within: the bark is usually rejected. This wood imparts to water or rectified spirit a deep tincture, appearing, when placed

betwixt the eye and the light; of a golden colour, in other situations blue. Pieces of another wood are sometimes mixed with it, which give only a yellow colour to water. The nephritic wood has scarce any smell, and very little taste. It stands recommended in *difficulty of urine, nephritic complaints, and all disorders of the kidneys and urinary passages*; and is said to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts. Practitioners however have not found these virtues warranted by experience.

MED. VIRT. *Diuretic.*

NICOTIANÆ folia: *Nicotiana Tabaci* Lin. S. P. Tobacco; the leaves [*L. E.*]

This plant was first brought into Europe, about the year 1560, from the island of Tobago in America; and is now cultivated for medicinal use, in our gardens. The leaves are about two feet long, of a pale green colour whilst fresh, and, when carefully dried, of a lively yellowish. They have a strong, disagreeable smell, like that of the narcotic plants; and a very acrid burning taste. Taken internally, they prove *virulently cathartic and emetic*, occasioning almost intolerable cardiac anxieties. By boiling in water, their virulence is abated, and at length destroyed: an extract made by long coction is recommended by Stahl and other German physicians, as a *safe and most effectual aperient, expectorant, detergent, &c.* but this medicine, which is extremely precarious and uncertain in strength, has never come into esteem among us. Tobacco is sometimes used externally in unguents, for *destroying cutaneous insects, cleansing old ulcers, &c.* Beaten into a mass with vinegar or brandy, it has sometimes proved serviceable for removing hard tumours of the *hypochondres*. An account is given in the

Edinburgh Essays of two cases of this kind cured by it.

There is another sort of tobacco found wild on dunghills, in several parts of England. This is called by C. Bauhine *nicotiana minor*, by Gerard *hyoscyamus luteus*. *Nicotiana rustica* Lin. It seems to agree in quality with the *hyoscyamus* formerly mentioned, though (as Dale informs us) often substituted in our markets for the true tobacco; from which it may be distinguished by the leaves being much smaller, and the flowers not reddish as those of the officinal sort, but of a yellowish green colour.

Of late, however, the *Nicotiana Tabaci*, besides the virtues attributed to it above, has been found to be an useful and powerful diuretic, given in the form of watery infusion and tincture, which are made in the following manner: infuse one ounce of dried Virginia tobacco leaves in one pint of proof spirit, or water; let it stand for four days; from thirty to sixty drops or more, to be increased by five, eight, or ten drops, to a suitable dose, to be taken two hours before dinner, and at bed-time, in a little cinnamon or any other kind of aromatic water, or in common water; the dose one fourth less at noon than in the morning. In delicate habits it should be cautiously administered. From the use of this, many cases of dropsy and dysury have been relieved, and some effectually cured. In fume and infusion, by way of glyster, it has been used with effect, against costiveness, in incarcerated hernia, iliac passion, and worms, particularly the ascarides.

MED. VIRT. Violently emetic — Cathartic—and Narcotic.

PREP. Infusion — Tincture — Extract — Fume — Glyster.

NIGELLÆ semen: *Nigellæ sativæ* Lin. Fennel flower; the seeds.

This plant is sown annually in

some of our gardens; the seeds most esteemed are brought from Italy. They have a strong, not unpleasant smell; and a subacid, somewhat unctuous, disagreeable taste. They stand recommended as aperient, diuretic, &c. but have long been strangers to practice, and are by some suspected to have noxious qualities.

MED. VIRT. Aperient and Diuretic.

NITRUM: *Kali nitratum* [L. E.] Nitre, or saltpetre; a salt, extracted, in Persia and the East Indies, from certain earths that lie on the sides of hills; and artificially produced in some parts of Europe, from animal and vegetable matters rotted together (with the addition of lime and ashes) and exposed for a length of time to the air, without the access of which, nitre is never generated. The salt extracted from the earths, &c. by means of water, is purified by colature and crystallization.

Pure nitre dissolves in about six times its weight of water, and concretes again into colourless transparent crystals; their figure is that of an hexagonal prism, terminated by a pyramid of an equal number of sides. It readily melts in the fire; and, in contact with fuel, deflagrates with a bright flame and considerable noise; after the detonation is over, a large quantity of alkaline salt is found remaining. The taste of nitre is sharp, penetrating, and bitterish, accompanied with a sensation of coldness.

Nitre is a medicine of celebrated use in many disorders. Besides the aperient quality of neutral salts in general, it has a manifestly cooling one, by which it quenches thirst, and abates febrile heats and commotions of the blood. It has one great advantage above the refrigerating medicines of the acid kind, that it

does not coagulate the animal juices; blood, which is coagulated by all the mineral acids, and milk, &c. by acids of every kind, are by nitre rendered more dilute, and preserved from coagulation. It nevertheless somewhat thickens the thin, ferous, acrimonious humours, and occasions an uniform mixture of them with such as are more thick and viscid; by these means preventing the ill consequences which would otherwise ensue from the former, though it has not, as Jussackner supposes, any property of really obtunding acrimony. This medicine for the most part promotes urine; sometimes gently loosens the belly; but in cold phlegmatic habits, very rarely has this effect, though given in large doses: *alvine fluxes, proceeding from too great acrimony of the bile or inflammation of the intestines, are suppressed by it: in choleric and febrile disorders, it generally excites sweat; but in malignant cases, where the pulse is low, and the strength lost, it retards this salutary evacuation and the eruption of the exanthemata.*

Dr. Stahl has written an express treatise upon the medical virtues of nitre, in which he informs us, from his own experience, *that this salt, added to gargarisms employed in inflammations of the fauces in acute fevers, thickens the salivary moisture upon the palate and fauces into the consistence of a mucus, which keeps them moist for a considerable time; whereas, if nitre be not added, a sudden dryness of the mouth immediately ensues; that in nephritic complaints, the prudent use of nitre is of more service than any of the numerous medicines usually recommended in that disease; that nitre gives great relief in suppression and heat of urine, whether simple or occasioned by a venereal taint; that it is of great service in acute and inflammatory pains of the head, eyes, ears, teeth,*

&c. in all erysipelatous affections, whether particular or universal, and likewise in chronic deliria; that in diarrhææ happening in petechial fevers, nitre mixed with absorbents and diaphoretics had the best effects, always putting a stop to the flux, or rendering the evacuation salutary; that in diarrhææ happening in the small-pox, it had been employed with the like success, two doses, or three at most (consisting of two, three, or four grains each, according to the age, &c. of the patient) given at the interval of two or three hours, putting a stop to the flux, after the bezoardic powders, both with and without opium, had been given without success. The same author recommends this salt likewise as a medicine of singular service in choleras attended with great anxieties and heat of the blood; in the flatulent spasmodic heart-burns familiar to hypochondriacal people; and the loss of appetite, nausea, vomiting, &c. which gouty persons are sometimes seized with when the pains of the feet, &c. suddenly remit. In cases of this last kind, the use of nitre surely requires great caution, although the author assures us, that no bad consequences are to be feared from it. Nevertheless he observes, that in phthisis and ulcerous affections, it has been found to be of no service; and that therefore its use may be superseded in these complaints. Indeed in disorders of the lungs in general, it is commonly reckoned to be rather hurtful than beneficial.

By some, nitre is much recommended in hæmoptysis, or other active hæmorrhages, not from any astringent power it may possess, but from its diminishing the activity of the sanguiferous system. With gouty stomachs it is apt to disagree, and, when given in large doses, to occasion spasmodic affections of that organ, and to debili-

tate and depresses hypochondriac and nervous habits.

It is given from five to thirty grains, with equal quantities of sugar, or gum arabic well powdered, and dissolved in barley water or thin gruel, and administered repeatedly as a refrigerant, in acute fevers, and other inflammatory disorders; though it may be given with great safety, and generally to better advantage, in large quantities; the only inconvenience is its being apt to sit uneasy on the stomach. Some have affirmed, that this salt loses half its weight by fusion, and consequently that one part of melted nitre is equivalent to two of the crystals; but it did not appear, upon several careful trials, to lose so much as one twentieth of its weight.

MED. VIRT. *Diuretic — Diaphoretic — Refrigerant.*

PREP. *An acid Spirit — Decoction — Troches.*

NUX MOSCHATA [L. E.]

Myristica officinalis Lin. The kernel, called nutmeg, of the fruit; the essential oil; its expressed oil, commonly called oil of mace. *Mace, Mace,*

Nutmegs are the kernels of a roundish nut which grows in the East Indies. The outside covering of this fruit is soft and fleshy, like that of a walnut, and spontaneously opens when the nut grows ripe; immediately under this lies the mace (See *MACIS*) which forms a kind of reticular covering; through the fissures whereof appears a hard woody shell that includes the nutmeg. These kernels have long been made use of both for medicinal and culinary purposes, and deservedly looked upon as a warm agreeable aromatic. They are supposed likewise to have an astringent virtue; and are employed in that intention in *diarrhoea* and *dysenteries*. Their astringency is said to be increased by

torrefaction, but this does not appear to the taste: this treatment certainly deprives the spice of some of its finer oil, and therefore renders it less efficacious to any good purpose; and, if we may reason from analogy, probably abates its astringency. Nutmegs are supposed to be *aromatic, stomachic, astringent, and anodyne*; but they should not be used in large quantities; as they are apt to affect the head, and exercise so great an hypnotic power as to prove extremely dangerous, according to the accounts given by BONTIUS and CULLEN: therefore in apoplectic and paralytic cases, this spice may be very improper.

Nutmegs distilled with water afford a large quantity of essential oil, resembling in flavour the spice itself; after the distillation, an insipid sebaceous matter is found swimming on the water; the decoction, inspissated, gives an extract of an unctuous, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of nutmegs by infusion, and elevates very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent degree.

Nutmegs yield to the press (heated) a considerable quantity of limpid yellow oil, which in cooling concretes into a sebaceous consistence. In the shops we meet with three sorts of unctuous substances, called oil of mace, though really expressed from the nutmeg. The best is brought from the East Indies, in stone jars; this is of a thick consistence, of the colour of mace, and an agreeable fragrant smell; the second sort, which is paler coloured and much inferior in quality, comes from Holland in solid masses, generally flat, and of a square figure; the third, which is the worst of all, and usually called

common oil of mace, is an artificial composition of *sevum*, palm-oil, and the like, flavoured with a little genuine oil of the nutmeg. These oils yield all that part in which their aromatic flavour resides, in distillation to water, and to pure spirit by infusion: the distilled liquor and spirituous tincture nearly resemble in quality those prepared immediately from the nutmeg.

MED. VIRT. *Aromatic*—*Cordial*—*Hypnotic*—*Stomachic*.

PREP. *An essential Oil*—*Expressed Oil*, called *Oil of Mace*—*A spirituous Water*.

NUX PISTACHIA: *Pistachia vera* Lin. *Pistachio*.

This is a moderately large nut, containing a kernel of a pale greenish colour, covered with a reddish skin. The tree which produces it, grows spontaneously in Persia, Arabia, and several islands of the Archipelago: it bears likewise the colds of our own climate, so as to have produced fruit not inferior to that which we receive from abroad. Pistachio nuts have a pleasant, sweet, unctuous taste, resembling that of almonds. They are ranked amongst the *analeptics*, and are by some much esteemed in certain *weaknesses*, and in *emaciated habits*.

MED. VIRT. *Emollient*—*Analeptic*.

NYMPHÆÆ ALBÆ *radix*, *flor*es. Lin. White water lily; the root and flowers.

This grows in rivers and large lakes, flowering usually in June. The roots and flowers have a rough, bitterish, glutinous taste (the flowers are the least rough); and, when fresh, a disagreeable smell, which is in a great measure lost by drying: they are recommended in *alvine fluxes*, *gleets*, and the like. The roots are supposed by some to be in an eminent degree *narcotic*, but on no very good foundation. Lindestolpe informs

us, that in some parts of Sweden, they were in times of scarcity used as food, and did not prove unwholesome.

MED. VIRT. *Astringent* and *Corroborant*.

CENANTHE *Crocata* Lin. Hemlock dropwort. This is a large umbelliferous plant, growing in ditches and other moist places; with pinnated leaves, resembling those of celery or chervil, and ribbed stalks. Its roots afford the easiest mark of distinction, which are white, thick, and short, and grow several together, forming a kind of bunch.

The hemlock dropwort has long been known as a *most dangerous poison*; the most virulent, perhaps, that this country produces. Its roots or leaves, eaten by mistake, have frequently proved fatal, occasioning violent sickness and vomiting, rigors, convulsions, delirium, and other terrible affections of the nervous system. Dr. Pulteney has published a case in the *Philosophical Transactions*, vol. LXII. in which this plant, used by mistake instead of the water-parsnep, proved remarkably efficacious in removing an inveterate scorbutic complaint, which had resisted a variety of other remedies. The dose first given was a common spoonful of the juice of the root, which at the first exhibition produced very alarming effects. This was afterwards reduced to three tea spoonfuls; which quantity was persisted in a considerable time, and then changed for a tea of the leaves. The medicine never proved purgative, but was *diuretic*. It always occasioned a degree of vertigo, accompanied, when the juice itself was taken, with nausea and sickness.

In Edinburgh it is said to have been formerly brought into prac-

tice; and, from experiments made with the infusion of the leaves, it has been thought highly useful in promoting the menstrual discharge. However, from the active powers of this medicine, great caution is requisite in its administration; for if given in too large doses, it may prove destructive.

MED. VIRT. *A virulent Poison—Emmenagogue.*

PREP. *Juice—Infusion.*

OLIVÆ, earunque oleum: *Olea Europæa* Lin. S. P. The olive tree; the fruit and its oil [L. E.]

This tree grows in the southern parts of France, in Spain, Italy, and other warm countries: with us it is usually preserved in the green-houses of the curious, though it will bear our ordinary winters in the open air, and produce very good fruit. Olives have an acrid, bitter, extremely disagreeable taste: pickled (as we receive them from abroad) they prove less disagreeable; the Lucca olives, which are smaller than the others, have the weakest taste; the Spanish, or larger, the strongest; the Provence; which are of a middling size, are generally the most esteemed.

The oil obtained from this fruit has no particular taste or smell, and does not greatly differ in quality from oil of almonds. Authors make mention of two sorts of this oil; one, expressed from the olives when fully ripe, which is our common oil olive: the other, before it has grown ripe; this is called *oleum immaturum*, and *omphacium*. Nothing is met with in the shops under this name; and Lemery affirms, that there is no such oil; unripe olives yielding only a viscid juice to the press. From the ripe fruit, two or three sorts are obtained, differing in degree of purity: the purest runs by light pressure: the remaining magma, heated and pressed more strongly, yields an in-

ferior sort, with some dregs at the bottom, called *amurea*. All these oils contain a considerable portion of aqueous moisture, and a mucilaginous substance, which subject them to run into a putrid state: to prevent this, the preparers add some sea-salt, which, imbibing the aqueous and mucilaginous parts, sinks with them to the bottom; by these means, the oil becomes more homogeneous, and consequently less susceptible of alteration. In its passage to us, some of the salt, thrown up from the bottom by the shaking of the vessel, is sometimes mixed with and detained in the oil, which, in our colder climate, becomes too thick to suffer it freely to subside; and hence the oil is sometimes met with of a manifestly saline taste.

MED. VIRT. *Emollient.*

OLIBANUM [L. E.] *Juniperus lycia* Lin. A gummy resin, brought from Turkey and the East Indies, usually in drops or tears, like those of mastich, but larger, of a pale-yellowish, and sometimes reddish colour; a moderately warm pungent taste, and a strong, not very agreeable smell. This drug has received many different appellations, according to its different appearances: the single tears are called simply *olibanum*, or *thus*: when two are joined together, they have been called *thus masculum*, and when two were very large, *thus fæmininum*. Sometimes four or five, about the bigness of filberds, are found adhering to a piece of the bark of the tree from which they exuded; these have been named *thus corticosum*; the finer powder which rubs off from the tears in the carriage, *mica thuris*; and the coarser powder, *manna thuris*. This drug is not however in any of its states what is now called *thus* or frankincense in the shops. (See *Thurs*.)

Olibanum consists of about equal parts of a gummy and resinous substance, the first soluble in water, the other in rectified spirit. With regard to its virtues, many have been attributed to it, particularly in disorders of the head and breast, in aloine and uterine fluxes: but its real effects in these cases are far from answering the promises of the recommenders. Riverius is said to have had large experience of the good effects of this drug in pleurifies, especially epidemic ones; he directs a scooped apple to be filled with a dram of olibanum, then covered and roasted under the ashes; this is to be taken for a dose, three ounces of carduus water drank after it, and the patient covered up warm in bed: in a short time, he says, either a plentiful sweat or a gentle diarrhoea will ensue, which carry off the disease. Geoffroy informs us, that he has frequently made use of this medicine, after venesection, with good success; but acknowledges that it has sometimes failed. Its dose is from one to two scruples. It is now seldom used; its place being better supplied by myrrh, and other articles of the resinous kind.

MED. VIRT. *Slightly Astringent.*

OPIMUM. [L. E.] Opium.

This juice has not yet been collected in any quantity in Europe. Egypt, Persia, and some other provinces of Asia, have hitherto supplied us with this commodity: in those countries, large quantities of poppies are cultivated for this use. The opium prepared about Thebes in Egypt, hence named Thebaic opium, has been usually esteemed the best; but this is not now distinguished from that collected in other places. This juice is brought to us in cakes or loaves, covered with leaves and other vegetable matters, to prevent their sticking together: it is of a solid

consistence, yet somewhat softish and tenacious, of a dark reddish-brown colour in the mass, and, when reduced into powder, yellow; of a faint disagreeable smell, and a bitterish taste, accompanied with a pungent heat and acrimony.

The general effects of this medicine are, to relax the solids, and render them less sensible of irritation, to cheer the spirits, ease pain, procure sleep, promote perspiration and sweat, but restrain all other evacuations. When its operation is over, the pain and other symptoms which it had for a time abated, return; and generally with greater violence than before, unless the cause has been removed by the diaphoresis or relaxation which it occasioned.

The operation of opium is generally attended with a slow, but strong and full pulse, a dryness of the mouth, a redness and slight itching of the skin: and followed by a degree of nausea, a difficulty of respiration, lowness of the spirits, and a weak languid pulse.

The principal indications of opium are, great watchfulness, immoderate evacuations proceeding from acrimony and irritation, cramps or spasmodic contractions of the nerves, and violent pains of almost every kind. In these cases, opiates procure at least a temporary relief, and an opportunity for other medicines, properly interposed, to take effect.

Opium sometimes defeats the intention of the physician, and, instead of producing rest, occasions great anxiety, vomiting, &c. Taken on a full stomach, it often proves emetic. Where the patient is exhausted by excessive evacuations, it occasions generally great lowness. It has been observed to operate more powerfully in persons of a lax habit, than in the opposite circumstances. Whilst it usefully restrains preternatural discharges proceeding from

irritation, it proves injurious in those that arise from a contrary cause, as in the colliquative diarrhoea attending hectic fevers. By relaxing, taking off strictures, and occasioning a paralysis of particular parts, it often promotes such evacuation as those parts are concerned in. Boerhaave observes, that it sometimes enables the ureters to allow an easy passage even to the calculus: but this effect is by no means constant.

When opium is so managed as to procure sweat, it will tend to remove the inflammatory state of the system, and may prove generally useful; which is proved by the cure of the acute rheumatism from the exhibition of the compound powder of ipecacuanha. Though the use of opium is forbid in the first stage of the eruptive fever of the small-pox; as at this period of the disease the pulse is often found to be languid, and the countenance pale, though pains in the head and loins are at the same time very severe: these symptoms, with restlessness and other signs of irritability, which appear for some days after the attack of the disease, are considerably relieved by opium; to which are usually added camphor and tartarised antimonial wine, taking care to keep the body open. In *haemorrhages* excited by irritation, *unattended with inflammation*, opium is useful. In *dysentery* it may be occasionally employed to moderate the violence of the symptoms, though not considered as a remedy. In the *latter stages of diarrhoea*, when the acrimony producing it has been carried off in a great measure, opium is an efficacious remedy. In *cholera* and *pyrexia*, it is chiefly to be relied upon. Joined with laxatives it is employed in *colic*; and, doubtless, by relieving the spasm, often prevents ileus, and inflammation: nay, indeed, it

is frequently found to allay the vomiting, the spasms, the pain, and sometimes to diminish the inflammation, and prevent the gangrene of the strangulated gut, in *ileus* and in *incarcerated hernia*. In different species of *tetanus* opium is successful, and affords relief to various spasmodic and convulsive symptoms occurring in several diseases, as asthma, epilepsy, dyspepsia, hypochondriasis, rabies canina, chorea sancti Viti, mania, &c. &c.

In intermittents, opium has been strongly recommended, as an effectual means of stopping the recurrence of the febrile paroxysms, and has been given before the fit, in the cold stage, in the hot fit, and during the interval, with the best effects; producing immediate relief, and in a short time curing the patient; without leaving those abdominal obstructions which have been ascribed to the bark. But in these fevers the best practice perhaps is to unite opium with the bark, which enables the stomach to bear the latter in larger doses, and adds considerably to its efficacy.

With regard to the dose of opium, one grain is generally a sufficient, and often too large a one; maniacal persons, and those who have been long accustomed to take it, require three or more grains to have the due effect: but its dose varies in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another: and a dose that might prove fatal in colic or cholera, would not be perceptible in many cases of tetanus, or mania. The lowest fatal dose to those unaccustomed to take it is four grains: but a dangerous dose is so apt to produce vomiting that it seldom

occasions death. Injected up the rectum, it has all the effects of opium taken into the stomach; but double the quantity is to be employed to answer the purpose. Applied to the naked nerves of animals, it produces immediate torpor, and loss of power in all the muscles with which the nerves communicate. Among the eastern nations, who are habituated to opium, a dram is but a moderate dose. Garcias relates, that he knew one who every day took ten drams. Those who have been long accustomed to its use, upon leaving it off are seized with great lowness, languor, and anxiety; which are relieved by having again recourse to opium, and, in some measure, by wine or spirituous liquors.

Opium, taken into the stomach in an immoderate dose, proves a narcotic poison, producing vertigo, tremors, convulsions, delirium, stupor, stertor, and finally fatal apoplexy.

Opium is partially soluble in water, and in rectified spirit: proof spirit, wine, and vinegar, totally dissolve it; the impurities only being left. The solutions in proof spirit and wine have the same effects with the juice in substance; with this difference, that they exert themselves sooner in the body, and are less apt to leave a nausea on the stomach. A tincture made in rectified spirit is supposed to operate, in an equal dose, more powerfully than the foregoing liquors. Geoffroy informs us, from his own experience, that, whilst the watery and vinous solutions occasioned pleasant quiet sleep, a tincture drawn with pure spirit brought on a phrensy for a time. *Alkaline Salts diminish the soporific virtue of this medicine: fixt alkalies render it diuretic, whilst volatile ones determine its action chiefly to the cutaneous pores. Acids almost entirely de-*

stroy its power. Many have endeavoured to correct some imaginary ill qualities of this drug, by toasting it, by fermentation, by long continued digestions, by repeated dissolutions and distillations. These processes, though recommended by many writers, do not promise any singular advantage: they may indeed weaken the opium; but by these very means become prejudicial, rendering the medicine more uncertain in its operation, and the dose more undetermined.

Opium applied externally gives ease in many pains, but does not, as some have supposed, stupify the part, or render it insensible of pain: used immoderately, it is said to produce the same ill effects as when taken to excess internally.

MED. VIRT. *Sedative—Cordial.*

OPOPANAX: *Pasipaca Opopanax* Lin. S. P. *Opopanax* [L.]

A concrete gummy resinous juice, obtained from the roots of an umbelliferous plant, which grows spontaneously in the warmer countries, and bears the colds of this. The juice is brought from Turkey and the East Indies, sometimes in round drops or tears, but more commonly in irregular lumps, of a reddish yellow colour on the outside, with specks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar strong smell, and a bitter, acrid, somewhat nauseous taste. Its virtues are those of an attenuating and aperient medicine. Boerhaave frequently employed it, along with ammoniacum and galbanum, in *hypochondriacal disorders, obstructions of the abdominal viscera, suppressions of the menstrual evacuations* from the sluggishness of mucous humours, and a want of due elasticity of the solids; and in *asthmas*, especially when connected with a phlegmatic habit of body: in these intentions it is an useful

ingredient in the *pilulæ galb. comp.* and compound powder of myrrh of the London Pharmacopœia, but is not employed in any composition of the Edinburgh. It may be given by itself in the dose of a scruple, or half a dram: a whole dram proves, in many constitutions, gently purgative.

MED. VIRT. *Attenuant — Stimulant.*

ORIGANI *folia*: *Origani vulg.* Lin. S. P. Wild marjoram; the leaves [L.]

This is met with upon dry chalky hills, and in gravelly soils, in several parts of England. It has an agreeable smell, and a pungent taste, warmer than that of the garden marjoram, and much resembling thyme, with which it seems to agree in virtue. An essential oil distilled from it is kept in the shops; which has been used for easing pain of carious teeth, by dropping it on cotton, and inserting it in the cavity of the aching tooth. The dried leaves, used instead of tea, are said to be extremely grateful.

MED. VIRT. *Aromatic.*

PRÆP. *Essential Oil.*

There is another sort of *origanum* called *Creticum*, whose flowers, or rather flowery tops, are sometimes brought to us from Candy. These have an agreeable aromatic flavour, somewhat stronger than the common sort.

ORYZÆ *semen*: *Oryzæ sativæ* Lin. Rice; the seeds freed from the outward skin. These are brought chiefly from Carolina, where the plant is cultivated in large quantities; but they are the product of different countries, particularly of the East Indies. They are sufficiently nutritious, and afford an useful food in *diarrhœæ*, *dysenteries* and other disorders from a thin acrimonious state of the juices.

MED. VIRT. *Emollient — Refrigerant.*

PÆONIÆ *radix, flores, semen*: *Pæonia officinalis* Lin. Male and female peony; the roots, flowers, and seeds.

These plants are cultivated in our gardens on account of the beauty of their flowers; the female, which is the larger and more elegant, and for this reason the more common, is the only one with which the shops are supplied. In quality they are scarce sensibly different; and hence they may be taken promiscuously. The roots and seeds of peony have, when recent, an unpleasant scent, approaching to that of the narcotic plants; and a somewhat glutinous subacid taste, with a slight degree of bitterness and astringency: the leaves also discover an astringent quality both to the taste, and by changing chalybeate solutions of a purple colour: the flowers have little taste, and a very faint, not agreeable smell. The parts which have chiefly been used for medicinal purposes, are the roots and seeds. These are looked upon as *emollient*, *corroborant*, and *slightly anodyne*; and supposed to be of service in *some kinds of obstructions, erosions of the viscera, heat of urine, pains in the kidneys*, and the like. The virtue for which they are chiefly celebrated, is that of *curing spasmodic and epileptic complaints*; which many have been absurd enough to believe that the root of this plant would do by being worn about the neck.

MED. VIRT. *Emollient — Antispasmodic.*

PALMÆ *oleum*: *Cocos butyracea* Lin. Palm-oil [E.]

This oil is obtained *from the kernels of the fruit of a species of palm-tree, which is a native of the coast of Guinea and Cape Verd

islands. From these places it has been transplanted into Jamaica and Barbadoes. The oil, as brought to us, is about the consistence of an ointment, and of an orange-colour; a strong, not disagreeable smell, but very little taste. By long keeping, it loses its high colour, and becomes white; when it ought to be rejected, as no longer fit for use. The inhabitants of the Guinea coast are said to make this oil part of their food, and to employ it for the same purposes as we do butter. With us, it is rarely given inwardly, and used only in some external applications, for pains and weaknesses of the nerves, cramps, sprains, and the like. The common people apply it to the cure of chilblains, and, when early made use of, not without success.

MED. VIRT. *Emollient — Anodyne.*

PREP. *Expressed Oil.*

PAPAVERIS ALBI *capita* : *Papaveris somniferi Lin.* The large garden poppy, with white flowers and seeds; or the white poppy; its heads [*L. E.*]

The heads and stalks of these plants contain a milky juice, which may be collected in considerable quantity, by slightly wounding them when almost ripe. This juice, exposed for a few days to the air, thickens into a stiff tenacious mass, agreeing in quality with the opium brought from abroad. (See *OPIMUM.*) The juices of the white and black poppies appear to be similar to one another; the only difference is in the quantity afforded, which is generally in proportion to the size of the plants. The larger, or white poppy, is the sort cultivated by the preparers of opium in the eastern countries, and for medicinal uses in this.

Poppy-heads, boiled in water, impart to the menstruum their narcotic juice, together with the other

juices which they have in common with vegetable matters in general. The liquor strongly pressed out, suffered to settle, clarified with whites of eggs, and evaporated to a due consistence, yields about one fifth, or one sixth, the weight of the heads, of extract. This possesses the virtues of opium; but requires to be given in double its dose to answer the same intention, which it is said to perform without occasioning a nausea and giddiness, the usual consequences of the other. (See the *Edinburgh Essays abridg.* vol. i. pag. 158 and 132.) A strong decoction of the heads, mixed with as much sugar as is sufficient to reduce it into the consistence of a syrup, becomes fit for keeping in a liquid form; this is an useful anodyne, and often succeeds in procuring sleep, where opium fails. Both these preparations are very useful, though liable to variation in point of strength: nor does this inconvenience seem avoidable by any care in the prescriber, or the operator; since the poppy-heads themselves (according to the degree of maturity, and the soil and season of which they are the produce) contain different proportions of the narcotic matter to the other juices of the plant; as has been observed in the "*Pharmacopœia reformata.*"

The white poppy heads are often used for fomentations, and externally applied; but are more frequently added to the *decoctum pro fomento.*

The seeds of the poppy are by many reckoned soporific. Juncker says, they have the same quality with those of hyoscyamus, and Herman looks upon them as a good substitute to opium; misled probably by an observation which holds in many plants, that the seeds are more efficacious than the vessels in which they are contained.

The seeds of the poppy have

nothing of the narcotic juice which is lodged in their covering, and in the stalks; an oil expressed from them has been used for the same purposes as oil olive; and the seeds themselves taken as food. Their taste is sweetish and farinaceous.

MED. VIRT. *Anodyne.*

PREP. *Syrup—Extract.*

PAPAVERIS ERRATICI, *feu Papaveris rhœadæ* Lin. *S. P. flores.* Red poppy, or corn-rose; the greater of the hairy wild poppies, with deep red flowers and dark-coloured seeds; its flowers [L.]

The flowers of this plant yield upon expression a deep red juice, and impart the same colour by infusion to aqueous liquors. A syrup of them is kept in the shops: this is valued chiefly for its colour; though some expect from it a lightly anodyne virtue.

PARALYSIS *floræ: Primulæ veris* Lin. Cowslip; the flowers.

This plant grows wild in marshes and moist meadows. The flowers appear in April; they have a pleasant sweet smell, and a subacid, bitterish, somewhat astringent taste. An infusion of them, used as tea, is recommended as a *mild corroborant*, in *nervous complaints*, and in *some female disorders preceeding from a deficiency of the menstrual purgations.*

MED. VIRT. *Corroborant and Antispasmodic:* but possessed of slight power.

PAREIRA BRAVA [L.] *Cissampelos Pareira* Lin.

This is the root of an American convolvulus, brought to us from Brazil, in pieces of different sizes, some no bigger than a man's finger, others as large as a child's arm. It is crooked, and variously wrinkled on the surface; outwardly of a dark colour, internally of a dull yellowish, and interwoven with woody fibres, so that, upon a transverse section, a number of concen-

tric circles appear, crossed with fibres, which run from the centre to the circumference. It has no smell; the taste is a little bitterish, blended with a sweetness like that of liquorice. This root is highly extolled by the Brazilians and Portuguese, in a great variety of diseases, particularly against suppressions of urine, nephritic pains, and the calculus. In the two first, Geoffroy says he has given it with good success, and that the patient was almost instantly relieved by it, a copious discharge of urine succeeding. He likewise observed large quantities of gravel, and even small stones, voided after its use. This effect he attributes not to any lithontriptic power, but to its dissolving the viscid mucus by which the fabulous matter had been detained. He likewise relates, that he has had frequent experience of the good effects of this root in deterring and healing ulcers of the kidneys and bladder, where the urine came away purulent and mucous, and could not be voided at all without extreme pain; by the use of the pareira, the urine soon became clear, and of a due consistence, and was evacuated freely; and, by joining to this medicine balsam of copaiba, the ulcer perfectly healed. The attenuating quality, which he had discovered in this root, induced him to make trial of it in other diseases proceeding from tenacious juices; and in these likewise it fully answered his expectations. In humoral asthma, where the lungs are stuffed up, and the patient almost suffocated by thick phlegm, an infusion of pareira, after many other medicines had proved ineffectual, occasioned a plentiful expectoration, and soon completed a cure. In the jaundice proceeding from thick bile, it did excellent service: but in another ictical case, where the

liver was swelled and hard, this medicine did no good. His dose of the root in substance is from twelve grains to half a dram; in decoction two or three drams in a pint, for three doses, one to be given every half hour, and afterwards at longer intervals. He cautions against too large doses, for fear of heating or inflaming the kidneys; but it is said by others that one ounce has been taken without producing any such effect.

The present mode of administering it is in decoction, of four drams boiled in three pints of water till reduced to one, sweetened with honey, of which a tea-cupful is to be taken every three or four hours; or from fifteen to thirty grains of the powder twice or thrice a day.

MED. VIRT. *Attenuant* — *Diuretic* — *Lithontriptic*.

PARIETARIÆ folia: *Parietaria officinalis* Lin. S. P. Pellitory of the wall; the leaves [L. E.]

This is a small plant growing upon old walls; of an herbaceous, subsaline taste, without any smell. It is one of the five emollient herbs, and in this intention is occasionally made use of. The expressed juice has been given in the dose of three ounces as a diuretic.

MATHIOLUS tells us, that this, sweetened with sugar, had a powerful effect this way: and BARBEIRAC, that a decoction of this plant and uva ursi was found of great use in clearing the urinary passages of viscid mucus and fabulous concretions; though it is now very rarely used.

MED. VIRT. *Emollient* — *Diuretic*.

PASTINACA sativa Lin.

PASTINACA sylvestris; Parsneps.

The roots of the garden parsnep are used as food, and prove sufficiently nutritious. The seeds of both the garden and wild parsnep are

slightly aromatic; those of the wild are strongest; however they are rarely employed.

MED. VIRT. *Aromatic* — *Emollient*.

PENTAPHYLLI radix: *Potentillæ reptantis* Lin. S. P. Cinquefoil; the root [L.]

This grows plentifully in hedges, and by road-sides. The root is moderately astringent: and as such is sometimes given internally against diarrhœa and other fluxes: and employed in gargarisms for strengthening the gums, &c. The cortical part of the root may be taken, in substance, to the quantity of a dram: the internal part is considerably weaker, and requires to be given in double the dose to produce the same effect.

MED. VIRT. *Astringent*.

PERSICARIÆ URENTIS folia: *Polygonum hydropiper* Lin. Biting arsmart, lakeweed, or water pepper; the leaves.

This sort is readily distinguishable, by its pungent, biting, pepper-like taste. Its virtues are those of an acrid stimulating medicine: in phlegmatic habits, it promotes the urinary discharge, and has frequently done good service in scorbutic complaints. The fresh leaves are sometimes applied externally for cleansing old fistulous ulcers, and consuming fungous flesh: for these purposes they are said to be employed by the farriers, among whom they have been principally made use of.

MED. VIRT. *Diuretic* — *Detergent*.

PERSICÆ MALI flores: *Amygdalæ Persicæ* Lin. The peach-tree; its flowers and kernels.

Peach-flowers have an agreeable smell, and a bitterish taste: distilled, without any addition, by the heat of a water-bath, they yield one-sixth their weight, or more, of a whitish liquor, which, as Mr. Bolduc observes, communicates to a large quantity of other liquids

a flavour like that of the kernels of fruit. An infusion in water of half an ounce of the fresh gathered flowers, or a dram of them when dried, sweetened with sugar, proves for children *an useful laxative and anthelmintic*. The leaves of the tree are, in this intention, somewhat more efficacious, though less agreeable. The fruit has the same quality with the other sweet fruits, that of *abating heat, quenching thirst, and gently loosening the belly*.

MED. VIRT. *Laxative—Anthelmintic—Refrigerant*.

PERUVIANUS CORTEX [L. E.] *Cinchona officinalis* Lin.—It is thus called from the Countess of Cinchon, who was the first person of distinction recovered from a tertian fever by this remedy. Peruvian bark: the bark of a tall slender tree, growing in Peru. It is brought to us in pieces of different sizes, sometimes rolled up into short thick quills, and sometimes flat. The outside is brownish, and generally covered in part with a whitish moss; the inside is of a yellowish, reddish, or rusty iron colour. It has a slightly aromatic smell, somewhat musty, yet not disagreeable; a bitterish, astringent taste, which dwells long upon the tongue, accompanied with a degree of aromatic warmth. The small, thin, flat pieces, are by some accounted the best; by others, the quill sort, with the roughest coat, especially if of a bright cinnamon colour on the inside; though the large flat pieces, whether rough or smooth, of a lighter or darker colour, are often of equal goodness. *The best bark is that which is strongest in smell and taste: this likewise proves friable between the teeth, and does not separate into fibres; it breaks, not shivery, but close and smooth*.

The virtues of this bark, as a febrifuge, were discovered by the

Indians about the year 1500. Europe did not become acquainted with it till 1649: nor was it received into general practice till several years after this; some ill consequences, ensuing from its imprudent use, having brought it for a time into disrepute. At present, it is looked upon as the most *effectual remedy in intermittent fevers of almost every kind*, and safe in all ages and constitutions; provided it be judiciously and seasonably administered, and due regard be had to the circumstances of the disease. The modern practice, previous to the use of this medicine, usually gives an emetic at the beginning of a paroxysm. In some cases a cathartic, and in plethoric habits venæsection, are premised. These render the bark not only more safe, but likewise more certain and speedy in its operation. Where these evacuations are neglected, or not sufficiently plentiful, the disease, if of long standing, scarce yields to the *cortex*; or if it appear at length subdued, yet the patient does not recover his strength, and soon suffers a relapse. The use of the bark is begun at the end of a paroxysm, and repeated, in the quantity of half a dram (more or less, according to the circumstances of the patient), every third or fourth hour during the intermission. — Some practitioners prefer giving it just before the fit, some during the fit, others after the fit. Dr. CULLEN says: "I am satisfied, giving a large dose immediately before the time of accession is the most proper practice; but as that dose must not be under two drams of the pale bark, so there are some stomachs that will not even bear that quantity, or a larger that might be necessary. It is commonly, therefore, convenient to give small doses, but to give them every hour, for some hours near to the time of ac-

cession." Some order it in the quantity of an ounce between the fits, and this mode of procedure is considered by Dr. DUNCAN as, upon the whole, preferable, from being best suited to most stomachs. It may indeed be given from the very commencement of the disease without any previous evacuation; and it is to be continued not only till the paroxysms cease, but till the natural appetite, strength, and complexion returns; but it commonly answers better after emptying the alimentary canal, particularly the stomach.

In remittent fevers, especially during the time of remission, the bark may also be employed with great success. In typhus, of the nervous or putrid kind, the bark is very generally used, as well suited to counteract the debility, or putrescency, which marks the progress of the disorder. In these epidemic fevers, there is one state however not unfrequently present wherein the bark may be hurtful, that is when there are symptoms of congestion, or topical inflammation of the head, manifested by head-ach, redness of the eyes, and phrenitic delirium. And whenever delirium is accompanied with much subsultus tendinum, or frequent convulsive twitchings of the limbs, Dr. CULLEN thinks opium in large doses is the only remedy upon which we can depend. *Where the fever is of the bilious kind, and accompanied with great heat, a little nitre is joined.* In all cases, moderate exercise generally promotes its effect. At first, it usually loosens the belly, and sometimes operates as if a cathartic had been taken; and by these means supplies the omission of evacuation before its exhibition. If the purging continue, the medicine does not answer the purposes intended by it. In such case, a little opium is

added, which effectually suppresses the flux. If after this the patient continues too costive, recourse is had to glysters. The looseness, however, ought not to be stopt too soon: on the contrary, where the bark does itself produce this effect, it is necessary, as Dr. Mead informs us, to join to it a little rhubarb, so as to occasion for a time two stools a day; by these means the disease is more effectually cured, and less subject to be followed by a dropsy, or ill habit of body. After a dram or two of rhubarb have been taken, it is to be discontinued, and the bark exhibited by itself. After the fever has been removed, the medicine is continued for some time longer, to prevent a relapse; and evacuations, unless absolutely necessary, abstained from. The disease is nevertheless seldom completely cured before some very considerable evacuation, either by stool, urine, or perspiration, ensues: if this do not succeed spontaneously, cathartics, diuretics, or diaphoretics, are given in conjunction with the bark, otherwise the patient continues weak, and without appetite, till either the disease returns, or changes into one of a different kind.

In *symptomatic agues, hectic and purulent fevers, cacochymic habits, and where the hypochondres are swelled and distended, this medicine is improper*, and for the most part prejudicial. Its manifest astringency forbids its use in obstructions of the abdominal viscera, or suppressions of any critical evacuation; until the obstruction be first removed, or the evacuation have had its due course.

In *acute, inflammatory, or malignant fevers*, the bark does not seem to have any good effect. Nevertheless, in *the decline* of long nervous fevers, or after a remission, when from bad habit, old age, fa-

tigue, or the like, the patient is extremely weak, and the pulse low, the *cortex* proves a medicine of excellent service; provided there be no extravasation, that the vessels remain entire, and pus be not already formed.

Peruvian bark has likewise been found *eminently serviceable* in *gangrenes and mortifications*, proceeding either from an internal or external cause. In all the cases of this kind, where it proved successful, it occasioned a kind of suppuration, which degenerated when the use of the medicine was discontinued, and again turned kindly upon resuming it. Some have been hence induced to try the *cortex* in *various cases*, where either the pustules did not rightly suppurate, or the petechiæ showed a disposition to a gangrene; and here likewise it answered the expectation: the empty vesicles filled with matter, watery sanies changed into thick white pus, the petechiæ became gradually of a pale colour, and at length disappeared, and the pox began to turn sooner than was expected. See the *Edinburgh Medical Essays*.

Though this medicine is recommended in the confluent small-pox, to promote the rising of the pustules; yet there are some practitioners extremely conversant with this disease, who reject the opinion. But after the maturation of the pustules is completed, or where symptoms of putrescency, or a dissolved state of the blood supervenes, the bark cannot be too liberally employed.

Besides the diseases above enumerated, bark is recommended in the following: *ulcerated sore throat, scarlatina maligna, dysentery, all hæmorrhages of the passive kind, erysipelas; some cases of dropsy*, when unattended with any particular local affection; *scrophula, ill-condi-*

tioned ulcers, rickets, scurvy, certain stages of the phthisis pulmonalis, and, in fine, in all cases where the constitution is in a debilitated state, and requires to be invigorated by giving tone and vigour to the system; and perhaps it is these to which bark owes its power and efficacy.

The bark has been applied likewise, and not without success, to the cure of *periodic head-achs, hysteria, and hypochondriac fits*, and other disorders, which have regular intermissions. By its astringency and aromatic quality, it *strengthens the whole nervous system*, and proves useful in *weakness of the stomach*, and *sundry chronical disorders proceeding from too great laxity of the fibres*. In *obstinate uterine fluxes*, and *old gleet*, bark joined with chalybeates has good effects.

The bark has been of late much employed in acute rheumatism, particularly after the violence of the disease has been in some measure moderated by the antiphlogistic treatment, or when evident remissions take place. But it has been successful in some, when given even while the inflammatory symptoms prevailed to a very considerable degree, according to the testimony of some of the attendants on the London hospital.

The virtues of Peruvian bark reside chiefly in a resinous substance, and hence are extracted in perfection by rectified spirit. By strong coction in water, the resin is melted out, and mingled with the water; which, whilst hot, appears transparent, but in cooling grows turbid, and deposits great part of the resin to the bottom. Water elevates in distillation the aromatic part of the bark; pure spirit brings over nothing. Hence an aqueous extract proves not only less in quantity, but likewise inferior in quality to one made with rectified spirit.

Proof spirit extracts the virtues of this drug in tolerable perfection, in the cold; heat enables it to take up more than it can retain when cold. Spirit of sal ammoniac, prepared with fixt alkaline salts, gains very little from the *cortex*, either with or without heat; the spirit prepared with quicklime, and the dulcified spirit, in a few hours becomes strongly impregnated with its smell and taste.

The substances usually joined with bark in prescription seem calculated either to promote its efficacy, or merely for reducing it into the intended form; without much regard to its agreeableness, and the conveniency of taking it. This is nevertheless a point of great consequence, as its taste, and the quantity which is necessary, make the patient too frequently loath it, before enough has been taken to produce the desired effect. If designed to be given in the solid form of a bolus, electuary, &c. *it should be made up*, not, as is customary, with syrups, but *with mucilages*: with the former, it sticks about the mouth and fauces, whence its taste remains for a considerable time; with the latter, it passes freely, scarce leaving any taste in the mouth. Aromatics do not prevent the taste of the bark from discovering itself; *extract of liquorice very effectually conceals it*. The extract of logwood also, joined to that of bark, and a proper quantity of mucilage, form a very elegant and agreeable composition.

MED. VIRT. Tonic.

PREP. Powder — Extract — Tinctures — Decoction.

But the best form in which it can be given is the powder; for here the constituent parts are in the most effectual proportion.

PERUVIANUS CORTEX RUBER: Red Peruvian Bark.

The red bark, as it is called, is

in much larger and thicker pieces than the common. Most of the pieces are concave, though not rolled together like the quilled bark. They break short, like the best common bark, and appear evidently composed of three layers. The outer is thin, rugged, frequently covered with a mossy substance, and of a reddish brown colour. The middle is thicker, more compact, and of a darker colour: it is very brittle and resinous. The innermost layer is more woody and fibrous, and of a brighter red. In powdering this bark, the middle layer, which seems to contain the greatest proportion of resinous matter, does not break so readily as the rest: a circumstance to be attended to, lest the most active part should be left out of the fine powder.

This red bark to the taste discovers all the peculiar flavour of the Peruvian bark, but much stronger than the common officinal sort.

With respect to medical properties, from numerous and repeated trials it appears, *that the red bark possesses the same virtues with the common, but in a much higher degree*. A single half ounce of this has radically cured an obstinate intermittent, where many ounces of the other kind had either had no effect, or merely a temporary one.

There have been lately discovered in the province of *Santa-Fe*, four degrees and a half north of the equator, two kinds of the cinchona, one of which appears to be the same with the red bark of Peru; the other, one of the white species. This is a fortunate discovery, as it points out a new store of this most valuable medicine, when the ancient ones shall be exhausted.

PERUVIANUS CORTEX FLAVUS: Yellow bark.

This bark, lately introduced into practice, is supposed to be a species of cinchona, growing in the

interior parts of America, in a mountainous country, the same as that described by MURRAY under the title of *Cortex Chinae* — vel *Chinchinae regius* — seu *Cortex Chinae flavus*, of which he gives the following description. “The bark consists of flattish pieces about the length of the finger, the breadth of the thumb, and a line in thickness. Its colour is yellowish, inclining to that of the rust of iron. It partakes more of the ferruginous colour on its external than on its internal surface, owing to the close adhesion of the epidermis to the bark. Both in its fracture and on its surface, it appears fibrillous, breaking so easily between the fingers that it may be rubbed into a yellow powder. In taste it is intensely bitter, with a slight degree of atringency.”

This, like the Peruvian bark, gives out its virtues to water by infusion or decoction; to proof or rectified spirit; and extracts may be made of it by the same modes. Its virtues are the same, but in a stronger degree than either the common or the red bark, and therefore equally efficacious in much smaller doses. It is applicable to the same cases as the others. Its dose is from ℥ss to ℥ij of the powder; and of the extract half the quantity will be sufficient.

PETROLEUM: *Bitumen petroleum Lin. S. N.* Rock-oil [E.]

This is a general name for sundry liquid bitumens, or mineral oils, which spontaneously exude from the earth, or from clefts of rocks. These oils are found in almost all countries, but in greatest quantities in the warmer ones. Some are met with in different parts of England; and many of our common bituminous minerals, as pit-coal, &c. afford, on distillation, oils not greatly different.

The finest sort of this commodity comes from the dutchy of Modena in Italy, where three different kinds are found; *the best* is almost as clear, fluid, and transparent as water, of a highly penetrating, yet not disagreeable smell, somewhat like that of rectified oil of amber: *the second sort* is of a clear yellow colour, not so fluid as the former, less penetrating, and partaking more of the oil of amber smell: *the third, or worst*, is of a blackish red colour, of a thicker consistence, and more disagreeable than the two foregoing. The first of these is very rarely met with in the shops; the second, mixed with a little of the third, and some subtle oils, is usually sent us instead of it. Petroleum readily catches fire, and, if pure, burns entirely away: distilled, it becomes somewhat more pellucid than before (a small quantity of yellowish matter remaining) and loses much of its natural smell. It unites with the essential oils of vegetables, not at all with vinous spirits. The finer sorts are so light as to swim upon the most highly rectified spirit of wine.

Petroleum is at present very rarely employed as a medicine, though, if the finer kinds could be procured genuine, they should seem to deserve some notice: they are more agreeable than the oil of amber, and milder than that of turpentine; of the virtues of both of which they participate. They are principally recommended by authors for external purposes, *against pains and aches in paralytic complaints*, and for *preventing chilblains*. For these intentions, some of the more common mineral oils have been made use of with good success; an oil extracted from a kind of stone-coal has been cried up among the common people, under the name of British oil, for rheumatic pains, &c.

even this is often counterfeited by a small portion of oil of amber added to the common expressed oil.

MED. VIRT. *Anodyne* — *Corroborant*.

PETROLEUM BARBADENSE. Barbadoes tar.

This is thicker than the foregoing petrolea, and nearly of the consistence of common tar. It is of a reddish black colour, a disagreeable smell, less pungent than the other sorts. This bitumen is found in several of our American islands, where it is esteemed by the inhabitants of great service as a *sudorific*, and in disorders of the breast and lungs; though, in cases of this kind attended with inflammation, it is certainly improper. They likewise apply it externally as a *discutient*, and for preventing paralytic disorders. Among us it is rarely used, and not often to be met with genuine.

MED. VIRT. *Discutient* — *Sudorific*.

PETROSELINI VULGARIS *semen, radix: Apii petroselini Lin. S. P.* Common parsley; the roots and seeds [*L. E.*]

This plant is commonly cultivated for culinary purposes. The seeds have an aromatic flavour, and are occasionally made use of as *carminatives*, &c. The root of parsley is one of the five aperient roots, and in this intention is sometimes made an ingredient in apozems and diet-drinks: if liberally used, it is apt to occasion flatulencies, and thus, by distending the viscera, produces a contrary effect to that intended by it; the taste of this root is somewhat sweetish, with a slight degree of warmth and aromatic flavour. They are said to be *aperient* and *diuretic*; and have been employed to relieve nephritic pains, and obstructions of urine. The bruised leaves have been used as successfully as a *discutient* poultice in many sorts of tumours.

It is remarkable that facts have been adduced, to prove, that parsley, though so frequently eaten, has in some constitutions produced epilepsy, or at least aggravates epileptic fits in those who are subject to them. It has been supposed also to produce inflammation in the eyes.

MED. VIRT. *Aperient* — *Aromatic* — *Discutient*.

PEUCEDANI RADIX: *Peucedani officinalis Lin.* Hog's-fennel, or sulphur-wort; the root.

This plant grows wild by the sea shores, and in moist shady places. The roots have a strong disagreeable smell, somewhat resembling that of sulphureous solutions; and an unctuous, subacid, bitterish taste. They are looked upon as *stimulating* and *attenuating*, and supposed to promote expectoration and urine: the expressed juice was employed by the ancients, as an *errhine* in lethargic disorders. The present practice pays no regard to them in any intention.

PIMPINELLÆ SAXIFRAGÆ *radix.* Burnet saxifrage; the root [*E.*]

Three sorts of this plant are taken notice of by medical writers:

1. *Pimpinella saxifraga major, umbella candida C. B.* This is the species celebrated by the German writers under the name of *pimpinella alba*: it is not very common in this country, and therefore our markets have been generally supplied with the following.

2. *Pimpinella saxifraga minor foliis sanguisorbæ Rati. Tragoselinum alterum majus Tourn.* This is not unfrequently met with in dry pasture grounds.

3. *Pimpinella saxifraga minor C. B. foliis dissectis Hift. Oxon.* This sort is the most common in the fields about London: it grows taller than the others, but the leaves are less.

All these plants seem to be pos-

possession of the same qualities, and to differ only in external appearance; and even in this their difference is so inconsiderable, that Linnæus has joined them into one, under the general name of *pimpinella*.

The roots of *pimpinella* have a grateful, warm, very pungent taste, which is entirely extracted by rectified spirit; in distillation, the menstruum arises, leaving all that it had taken up from the root, united into a pungent aromatic resin. This root promises, from its sensible qualities, to be a medicine of considerable utility; though little regarded in common practice. Stahl, Hoffmann, and other German physicians, are extremely fond of it, and recommend it as an excellent *stomachic*, *resolvent*, *detergent*, *diuretic*, *diaphoretic*, and *alexipharmac*. They frequently gave it, and not without success, in *scorbutic* and *cutaneous disorders*, *foulness of the blood and juices*, *tumours* and *obstructions of the glands*, and *diseases proceeding from a deficiency of the fluid secretions in general*. Boerhaave directs the use of this medicine in *asthmatic* and *hydropic cases*, where the strongest resolvents are indicated: the form he prefers is a watery infusion; but the spirituous tincture possesses the virtues of the root in much greater perfection.

By several writers it is recommended as a *stomachic*, and in all cases where pituitous humours are thought to prevail, not only in *asthmas* and *dropsies*, but also in *catarrhal coughs*, *hoarseness*, and the *angina serosa*. HOFFMAN considers it as an excellent *emmenagogue*. In the way of gargle it has been employed for dissolving viscid mucus, and to stimulate the tongue when that organ becomes paralytic. In substance, a scruple may be given for a dose; in infusion, to two drams.

MED. VIRT. *Diaphoretic* — *Diuretic* — *Antiscorbutic*

PIPER LONGUM *Lin. S. P.* [L. E.] Long pepper. This is the fruit of a plant growing also in the East Indies. It is of a cylindrical figure, about an inch and a half in length; the external surface appears composed of numerous minute grains disposed round the fruit in a kind of spiral direction.

All the peppers have a pungent smell, and a very hot biting taste. The long sort, which is the hottest and strongest, is most frequently made use of for medicinal purposes; the black, as being more grateful, for culinary ones; the white, which is the weakest of the three, is rarely employed for either. The warmth and pungency of these spices resides chiefly in their resinous part; their aromatic odour in an essential oil. The genuine distilled oil smells strong of the pepper, but has very little acrimony; the remaining decoction, inspissated, yields an extract considerably pungent. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

PIPER NIGRUM *Lin. S. P.* [L. E.] Black pepper.

This species of pepper grows spontaneously in the East Indies, but does not arrive at perfection without the aid of culture. It is cultivated with such success in Malacca, Java, and especially at Sumatra, that from these islands pepper is exported to every part of the world where a regular commerce has been established. The black pepper is gathered probably before it is fully ripe, and exciccated in the sun. The WHITE PEPPER is the ripe and perfect berries stripped of their outward coats. For this purpose the berries are steeped for about

a fortnight in water, till by swelling their outward coverings burst, after which they are easily separated, and the pepper is carefully dried in the same manner as the former. Pepper which has fallen to the ground over-ripe, loses its outer coat, and is sold as an inferior white pepper.

Black pepper is generally used as an aromatic, and stimulant, is warming to the stomach, and heats the whole system, though it has been supposed to produce that effect in a less degree than any of the other aromatics. It has been successfully employed in some cases of vertigo, and in paralytic and arthritic disorders. Given in large doses, it has been found a remedy for intermittents; but its use in these has, in some instances, introduced fatal consequences.

MED. VIRT. *Highly aromatic and stimulant.*

PIPER JAMAICENSE: *Myrtus Pimenta* Lin. S. P. [L. E.] Pimento, or Jamaica pepper.

This is the produce of our own plantations. It is the fruit of a large tree growing spontaneously in the mountainous parts of Jamaica, called by Sir Hans Sloane, *myrtus arborea, aromatica, foliis laurinis*. The smell of this spice resembles a mixture of cinnamon, cloves, and nutmegs: its taste approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of *all-spice*. The shops have been for some time accustomed to employ this aromatic as a succedaneum to the more costly spices, and from them it has been introduced into our hospitals. It yields a large quantity of a pleasant essential oil, which sinks in water. To rectified spirit it imparts by maceration and digestion the whole of its virtue, but little or nothing by distillation.

Pimento can scarcely be considered as a medicine: it is however an agreeable aromatic, not unfrequently employed with several drugs requiring such a grateful adjunct.

MED. VIRT. *Aromatic.*

PREP. *Distilled Water — Spirit — Essential Oil.*

PIPER INDICUM [L. E.]

Capficum annuum Lin. S. P. Guinea pepper, or capsicum; the fruit.

This is an annual plant cultivated in our gardens; it ripens its red pods in September or October. The taste of capsicum is extremely pungent and acrimonious, setting the mouth as it were on fire. It has been chiefly employed for culinary purposes, but lately adopted as a medicine; and in the climates of which it is a native, we are told that a free use of it is a salutary practice, being found to *strengthen the stomach, assist digestion, and correct the putrescent colligation of the humors*, so common in hot climates. As an aromatic of the most acrid and stimulant kind, it certainly may be found efficacious in some paralytic and gouty cases, or to promote excitement, where the bodily organs are languid and torpid.

Dr. MACKITRICK directs it to be given to the extent of six or eight grains, under the form of pills, or of tincture, made by infusing half an ounce in a pound of rectified spirit, and giving this from one to three drams, diluted, for a dose. It has been successfully exhibited in *cynanche maligna*, and in what the doctor calls *cachexia africana*, which he considers as the most frequent and fatal predispositions to disease among Negroes.

In *inveterate intermittents*, BERGUS gave the seeds of capsicum with great success in the following manner:—To six grains of Indian pepper he added two scruples of bayberries, which he divided into

three parts, one of which was taken in the beginning of the first shivering fit, the second the day after at the same hour, and the third dose on the third day.

What we call the Cayenne pepper, now much used at our tables, is the fruit of the Bird-pepper, the *capsicum baccatum* of Linnæus, and differs not materially from that above described.

MED. VIRT. *Strongly Stimulant.*

PREP. *Tincture—Powder.*

PIX LIQUIDA: *Pinus sylvestris*, Lin. [L. E.] Tar; a thick, black, unctuous substance, obtained from old pines and fir-trees, by burning them with a close smothering heat. It differs from the native resinous juice of the trees in having received a disagreeable impression from the fire, and containing a portion of the saline and other juices united with the resinous and oily; by the mediation of these, a part of the terebinthinate oil proves dissoluble in aqueous liquors, which extract little or nothing from the purer turpentine. Water impregnated with the more soluble parts of tar, proves, in consequence of this hot pungent oil, warm and stimulating. It sensibly *raises the pulse and quickens the circulation*. By these qualities, in cold languid phlegmatic habits, it *strengthens the solids, attenuates viscid juices, opens obstructions of the minuter vessels, and promotes perspiration and the fluid secretions in general*; whilst in hot bilious temperaments it disposes to inflammation, and aggravates the complaints which it has been employed to remove.

Tar is properly an empyreumatic oil of turpentine, and has been used as a medicine both internally and externally. Water impregnated with the more soluble parts of tar in the following manner—"To two pounds of tar add one gallon of water, and let them be well stirred together, then suffer them to settle for

two days, and afterwards pour off the clear liquor—was called tar-water, of which from a pint to a quart was drank in the course of twenty-four hours. This was a popular remedy in many diseases both acute and chronic; in *small-pox, scurvy-ulcers, fistulas, rheumatism, asthma, coughs, cutaneous complaints, &c.* And though its medicinal effects were greatly exaggerated by bishop Berkely, Prior, and others, yet Dr. CULLEN confesses that he found in many cases the preparation a valuable medicine, and that it appeared to *strengthen the tone of the stomach, to excite appetite, promote digestion, and to cure all symptoms of dyspepsy*. At the same time it manifestly promotes the excretions, particularly that of urine—from all which it is obvious that this medicine may be highly useful in many diseases of the system. Externally the tar-ointment has been successfully used in many cutaneous complaints.

Dr. CULLEN mentions a case of a *lepra ichthyosis* cured by an ointment made by basting a leg of mutton, whilst roasting, with tar, and mixing the gravy procured by running a skewer into the mutton during the process, with the tar. This was rubbed all over the body for three or four nights successively, whilst the same body-linen was worn all the time; and this is alleged to be a remedy in several cases of lepra.

MED. VIRT. *Stimulant—Attenuant.*

PREP. *Tar-water—Ointment.*

PIX BURGUNDICA [L. E.] Burgundy pitch. This is of a solid consistence, yet somewhat soft, of a reddish brown colour, and more agreeable in smell than the foregoing. Geoffroy relates, that it is composed of gallipot (a solid whitish resin which separates from some of the *terebinthinae* as they run from the tree) melted with

common turpentine and a little of its distilled oil. Dale informs us, from the relation of a gentleman who saw the preparation of this commodity in Saxony (whence we are chiefly supplied with it), that it is no more than the common turpentine boiled a little.

This is chiefly employed for external uses in *inveterate cough*, *affections of the lungs*, and *other internal complaints*. Plasters of this resin, by acting as a topical stimulant, are frequently found of considerable service. In some cases it excites even vesications; but in general it produces only redness upon the parts to which it is applied, with a slight degree of moisture exuding from them.

MED. VIRT. *Gently warming.*

PLANTAGINIS LATIFOLIÆ

folia, semen: Plantaginis majoris Lin. [E.] Common broad-leaved plantane, called *septinervia*, from its having seven large nerves or ribs running along each leaf; the narrow-leaved sort has only five ribs, and hence is named *quinenervia*. They are both common in fields, and by road-sides. The leaves are *slightly astringent*, and the seeds said to be so; and hence they stand recommended in *hæmorrhages*, and other cases where medicines of this kind are proper. The leaves, bruised a little, are the usual application of the common people to slight flesh wounds, and cutaneous sores.

In *phibiscial complaints*, *spitting of blood*, and in *various fluxes*, both alvine and hæmorrhagic, they have been used, though the seeds seem better adapted to relieve *pulmonary affections*, because they are more mucilaginous. The roots have also been recommended for the cure of *tertian intermittents*. An ounce or two of the expressed juice, or the same quantity of a strong infusion, may be exhibited for a dose. In

agues the dose should be doubled, and given at the commencement of the fit. Plantane has been alleged to be a cure *for the bite of the rattlesnake*; but for this there is probably very little foundation, although it is one of the principal ingredients in the remedy of the negro Cæsar, for the discovery of which he received a considerable reward from the Assembly of South Carolina.

MED. VIRT. *Astringent.*

PLUMBUM [L.] Lead.

This is the heaviest of the metals except gold. It melts in a moderate heat, and, if kept in fusion, is soon converted partly into fume and partly into an ash-coloured calx (*plumbum ustum*); this, exposed to a stronger fire, in such a manner that the flame may play upon its surface, becomes first yellow, and afterwards of a deep red (*minium* or red lead); if in this process the fire be suddenly raised to a considerable height, the calx melts, assumes the appearance of oil, and on cooling forms a soft leasy substance of a yellowish or reddish colour (*litharge*). The proper menstruum of this metal is aquafortis: the vegetable acids likewise dissolve it, but in very small quantity; a quart of distilled vinegar will not take up a dram. Exposed to the steam of vinegar, it is by degrees corroded into a white powder (*cerusse*), which is considerably more easy of solution. The calces of lead dissolve, by heat, in expressed oils; these mixtures are the basis of several officinal plasters and unguents. Crystals of this metal made with distilled vinegar (called, from their sweetish taste, *sugar of lead*), and a tincture drawn from these and green vitriol, are likewise kept in the shops.

Preparations of lead, given internally, are supposed to incrassate the fluids, abate inflammations, and

restrain venereal diseases. The sugar is a strong astringent, and has been used, it is said, with success, in hæmorrhages, the fluor albus, seminal gleets, &c. The tincture is recommended for the like purposes; and for checking immoderate sweats in phthical cases. The internal use of this metal is nevertheless full of danger, and ought never to be ventured upon unless in desperate cases, after other medicines have been employed without taking effect: it often occasions violent colics; and though it should not prove immediately hurtful, its ill consequences are sure, though slow: tremors, spasms, or lingering tabes, too frequently follow.

Mr. Goulard, a surgeon of Montpellier, wrote a treatise, some few years ago, professedly on the external use of lead, which has been the means of greatly extending the use of it. The basis of his preparations is what he calls the extract of lead, which is a solution of litharge in strong vinegar, by boiling it gently to the consistence of a thin syrup, and, after it has stood to settle, the clear part is to be poured off for use. A small portion of this, diluted in a large quantity of soft water, makes his *vegeto-mineral water*, which is employed as a *lotion* or *foetus*, or *boiled with bread to make a cataplasn*. The extract is likewise combined with unguentous matters into a variety of forms. These preparations have been found of great utility in various cases of inflammation, particularly of the erysipelatous kind, and in those in consequence of burns and scalds. Their application has not, in the opinion of most practitioners, been observed to produce any of those affections of the nervous system, which characterise the poisonous effects of lead taken internally.

Notwithstanding much has been

said against the internal use of lead, particularly by Sir George Baker in the London Medical Observations, and in the hands of ignorance it certainly may be considered as a very dangerous medicine, nay, in fact, a poison, occasioning colics, contracted limbs, tremors, palsies, &c.; still, employed by the prudent and skilful, it is a most useful medicine, as an *astringent* and *refrigerant*, and *antispasmodic*, and never produces any bad effects if coupled with opium, and a purgative be given every second or third day. However, if it does not prove efficacious in a short time, its use should be desisted from.

MED. VIRT. *Astringent*—*Antispasmodic*—*Refrigerant*.

PREP. *Aq. litharg. acetat.*—*Cerussa acetata*.

POLYPODII radix: *Polypodii vulgaris* Lin. Polypody; the root.

Polypody is a capillary plant, growing upon old walls, the trunks of decayed trees, &c. That found upon the oak is generally preferred, though not sensibly different from the others. The roots are long and slender, of a reddish-brown colour on the outside, greenish within, full of small tubercles, which are resembled to the feet of an insect; whence the name of the plant. The taste of these roots is sweetish and nauseous.

Polypody has been employed in medicine for many ages; nevertheless its virtues remain as yet to be determined. The ancients held it to be a *powerful purger of melancholic humours*; by degrees, it came to be looked upon as an *evacuator of all humours in general*: at length it was supposed *only to gently loosen the belly*; and afterwards even this quality was denied it: succeeding physicians declared it to be *astringent*; of this number is Boerhaave, who esteems it *moderately styptic*, and *antiscorbutic*. For our own part, we

have had no direct experience of it; nor is it employed in practice. It is probable that (as Juncker supposes) the fresh root may loosen the belly, and that it has not this effect when dry.

MED. VIRT. *Laxative.*

POPULI NIGRÆ *gemmæ*: *Populi nigrae Lin.* The black poplar; its buds.

The black poplar is a large tree, growing wild in watery places; it is easily raised, and very quick of growth. The young buds or rudiments of the leaves, which appear in the beginning of spring, abound with a yellow, unctuous, odorous juice. They have hitherto been employed chiefly in an ointment, which received its name from them; though they are certainly capable of being applied to other purposes. A tincture of them made in rectified spirit, yields, upon being inspissated, a fragrant resin superior to many of those brought from abroad.

MED. VIRT. *Aromatic.*

PORRI *radix*: *Allii porri Lin.* Leeks; the root. This participates of the virtues of garlick, from which it differs chiefly in being much weaker.

PORTULACÆ *semen*: *Portulacæ oleraceæ Lin.* Purslane; the seeds.

This herb is cultivated in gardens for culinary uses. The seeds are ranked among the lesser cold seeds, and have sometimes been employed in emulsions, and the like, along with the others of that class.

MED. VIRT. *Refrigerant.*

PRUNELLÆ *folia*: *Prunella vulg. Lin.* Self-heal; the leaves.

This plant grows wild in meadows and pasture-grounds, and produces thick spikes of purplish flowers during the latter part of the summer. It has an herbaceous roughish taste; and hence stands recommended in *hemorrhages* and

alvine fluxes; it has been principally celebrated as a *vulnery*, whence its name; and in *gargarisms* for *apthæ* and *inflammations* of the *fauces*.

MED. VIRT. *Attenuant—Detergent.*

PRUNUS GALLICA: *Prunus domestica Lin.* French or common prunes [*L. E.*] This is the plum called by our gardeners the little black damask plum.

The medical effects of the common prunes are, to *abate heat*, and *gently loosen the belly*; which they perform by lubricating the passage, and softening the excrement. They are of *considerable service in costiveness accompanied with heat or irritation*, which the more stimulating cathartics would tend to aggravate. Where prunes are not of themselves sufficient, their effects may be promoted by joining with them a little rhubarb or the like: to which may be added some carminative ingredient, to prevent their occasioning flatulencies. Prunelloes have scarce any laxative quality; these are mild grateful refrigerants, and, by being occasionally kept in the mouth, usefully allay the thirst of hydropic persons.

All our garden plums are eaten at table; and when sufficiently ripe, and taken in a moderate quantity, prove a pleasant and wholesome food; but in the immature state they are more liable to produce colicky pains, diarrhœa, or cholera, than any other fruit of this class. Medicinally, they are emollient, cooling, and laxative, especially the French prunes which are imported here in their dried state from Marseilles.

MED. VIRT. *Cooling—Aperient.*

PRUNUS SYLVESTRIS: *Pruni spinosæ Lin. S. P.* Sloes; the fruit of the common black thorn, or sloe-bush [*L. E.*]

These have a very rough, austere taste, especially before they have been mellowed by frosts. The juice of the unripe fruit, inspissated to a proper consistence, is called *acacia Germanica*, and usually sold in the shops for the true Egyptian acacia. It is equally astringent with the Egyptian sort, but has more of a sharp or tartish taste, without any thing of the sweetish relish of the other.

Sloes have been recommended in *diarrhæas*, *hæmorrhageous affections*, and as gargles, in *tumefactions of the tonsils* and *uvula*—they are considered as the most powerful of the *fructus acerbi*; and have often been found an *agrecable astringent* by Dr. CULLEN.—The flowers, with their calyces, are *moderately purgative*; and for this purpose an ounce infused in a sufficient quantity of water, or whey, was experienced to be a pleasant and useful laxative. The powdered bark in doses of a dram is said to *cure the ague*. The tender leaves dried are sometimes used as a substitute for tea, and the best that has been yet used. Letters written upon linen or woollen with the juice of this fruit will not wash out.

MED. VIRT. *Astringent.*

PREP. *Inspissated juice*—*Conserve.*

PSYLLII semen: Plantaginis Psyllii Lin. Fleawort; the seeds.

This is a sort of plantane, growing wild in the warmer climates, and sometimes met with in our gardens. It differs from the common plantanes in having its stalks branched, with leaves upon them; hence it is named by Ray *plantago tanliferæ*. The seeds have been usually brought from the south of France; they are small, but supposed to resemble in shape a flea, whence the English name of the plant. These seeds have a nauseous, mucilaginous taste: boiled in water, they yield a considerable quantity of mu-

cilage, which is sometimes made use of in emollient glysters and the like. Alpinus relates, that among the Egyptians this *mucilage* is given in ardent fevers; and that it generally either loosens the belly or promotes sweat.

MED. VIRT. *Emollient*—*Laxative.*

PTARMICÆ radix: Achilleæ Ptarmicæ Lin. Sneezewort, or bastard pellitory; the root.

This grows wild upon heaths and in moist shady places; the flowers, which are of a white colour, come forth in June and July. The roots have an acrid smell, and a hot biting taste. Chewed they occasion a plentiful discharge of saliva; and, when powdered and snuffed up the nose, provoke sneezing. These are the only intentions to which they have been usually applied.

MED. VIRT. *Errhine*—*Stimulant.*

PULEGII folia: Menthe pulegii Lin. S. P. Pennyroyal; the leaves [*L. E.*]

This plant grows spontaneously in several parts of England upon moist commons, and in watery places; trailing upon the ground, and striking roots at the joints. Our markets have been for some time supplied with a garden sort, which is larger than the other, and grows upright.

Pennyroyal is a warm, pungent herb, of the aromatic kind, similar to mint, but more acrid and less agreeable. It has long been held in great esteem, and not undeservedly, as an *aperient* and *deobstruent*, particularly in *hysteric complaints*, and *suppressions of the uterine purgations*. For these purposes, the distilled water is generally made use of, or, what is of equal efficacy, an infusion of the leaves. It is observable, that both water and rectified spirit extract the virtues of this herb by infusion, and likewise ele-

vate greatest part of them in distillation.

The penny-royal certainly possesses the properties of the other mints; it is supposed, however, to be less efficacious as a stomachic, but more useful as a carminative and emmenagogue. BOYLE and others tell us that it has been successfully used in the *hooping cough*; but the great use for which it has been long employed is *promoting the uterine evacuations*. HALLER recommends an infusion of the herb with steel in white wine, with this intention, which he never knew fail of success; though CULLEN is of opinion that *mint* is in every respect a more effectual remedy than penny-royal.

MED. VIRT. *Aromatic—Emmenagogue.*

PREP. *Simple-Water—Spirit—Essential oil.*

PULEGII CERVINI folia: *Mentha cervina* Lin. Harts penny-royal; the leaves.

This species is met with, though not very often, in our gardens. It is somewhat stronger, yet rather more agreeable, than the foregoing both in taste and smell.

PULSATILLA NIGRICANS, *Anemone pratensis* Lin. [E.] Meadow anemone or Pasque flower; a species of anemone, much resembling the *pulsatilla vulgaris*; but its flower is less, and of a darker hue. It is a native of the south of Germany, and other neighbouring countries.

All the anemones have a considerable degree of acrimony; but this seems to possess the largest share. The whole plant, when chewed, impresses the tongue with a sharp, burning, durable taste; the root is milder than the other parts. On distilling the plant with water, the liquor which comes over is strongly impregnated with its vir-

tues; and the remaining extract is also considerably active.

Dr. Stœrck of Vienna, from numerous trials, celebrates its efficacy in various chronic diseases of the eye, particularly amaurosis, cataract, opacity of the cornea, proceeding from various causes; in venereal nodes and nocturnal pains; in foul ulcers with caries; in *serpigo*; suppressed menses; indurated glands; melancholy, and palsy. Many German physicians have tried with success the effects of this medicine in diseases of the eyes; whilst others speak of its inefficacy, though the plant was tried in doses considerably beyond what Stœrck had recommended: notwithstanding which, Dr. Cullen still advises it to be used, particularly in that disease so frequently otherwise incurable, the amaurosis.

The dose of the distilled water is half an ounce twice a day; of the extract, reduced to a powder with sugar, five or six grains.

MED. VIRT. *Emetic—Diuretic—Cathartic.*

PREP. *Powder—Distilled-water—Extract.*

PYRETHRI radix: *Anthemis Pyrethri* Lin. S. P. Pellitory of Spain; the root [L. E.]

This plant, though a native of the warm climates, bears the ordinary winters of this; and often flowers successively from Christmas to May. The roots also grow larger with us than those with which the shops are usually supplied from abroad.

Pellitory root has no sensible smell; its taste is very hot and acrid, but less so than that of arum or dracunculus: the juice expressed from it has scarce any acrimony, nor is the root itself so pungent, when fresh, as after it has been dried. Water, assisted by heat, extracts some share of its taste; rec-

tified spirit the whole: neither of them elevates any thing in distillation. The principal use of pyrethrum in the present practice is as a *masticatory*, for *promoting the salival flux*; and *evacuating viscid humours from the head and neighbouring parts*. By these means it often *relieves the tooth-ach*, *some kinds of pains of the head*, *rheumatic complaints of the face*, *lethargic complaints*, and *paralysis of the tongue*.

MED. VIRT. Stimulant—Aromatic.

QUASSIA: *Quassia amara* Lin. S. P. Quassy; wood, root, and bark. [L. E.]

The root of a tree growing in Surinam, which is as thick as a man's arm. Its wood is whitish, hard, solid, and tough, becoming yellowish on exposure to the air. It is taken both from the trunk and branches cut transversely; it is marked with parallel capillary rays, from the centre to the circumference, and many hollowed points spread over the whole disc; it is covered with a thin bark of a pale white, easily separated, often spotted with black—lightish and brittle. The thicker the pieces, the more compact the wood, though light for its size; the lighter internally the more bitter. It is not unusual to see spots or stripes ash-coloured, brown, or even of a deep blue or black, in different parts of the surface; where this unusual colour descends deep, the wood is almost insipid and soft, whence some corruption may be suspected. The wood of the trunk is to be preferred to that of the branches; and that of the root, which is said to be of a deeper colour, to that of the trunk. The thicker pieces are always to be preferred to the smaller. Quassy has no sensible smell; its taste is that of a pure bitter, without astringency, and not nauseous; more in-

tense and durable than that of almost any known substance. It communicates its bitter to watery infusions and decoctions; and its spirituous tinctures are all equally bitter, of a pale yellow hue, which is not blackened by the addition of martial vitriol.

The flowers are used by the natives, and looked upon by them as an excellent stomachic. The root was a secret remedy used by a negro, named Quassi, in the fatal fevers of that country, from whom it was purchased by Daniel Rolander, a Swede, who returned in 1756. A confirmation of its medical powers appears in a letter from Mr. Farley, a practitioner in Antigua, printed in the Phil. Transact. vol. LVIII. He found it remarkably efficacious in *suppressing vomitings*, *stopping a tendency to putrefaction*, and *removing fevers*. It may be used in infusion or extract; the latter, made into pills, on account of the intense bitterness of the drug, is preferable for delicate stomachs.

It is by modern practitioners esteemed to possess tonic, stomachic, and antiseptic powers, and therefore employed in *loss of tone*, *anorexia*, *hypochondriasis*, *epidemic intermittents*, and *remittent fevers*. It has also been found effectual for *producing appetite*, *assisting digestion*, *expelling flatulency*, and *removing habitual costiveness*, *produced from debility of the intestines*, and common to a *sedentary life*.

MED. VIRT. Stomachic and Tonic. PREP. Extract.

Its dose—3j. of the rasped root infused in ℥j of cold water for 24 hours; or in boiling water for an hour; from 3j to 3iv given several times a day.

QUERCUS cortex: *Quercus robur* Lin. S. P. Oak-tree; the bark [E. L.]

The astringent effects of the oak

were sufficiently known to the ancients, by whom different parts of it were used: but the bark only is now appropriated to medicinal purposes. They manifest a taste of strong astringency, accompanied with a moderate bitterness, qualities extracted both by water and rectified spirit. From these qualities it has been recommended in agues, for restraining hæmorrhages, alvine fluxes, and other immoderate evacuations. A decoction of it has been used as a fomentation in proidentia recti et uteri; in slight tumefactions of the mucous membrane of the fauces, in prolapsus uvule, and cynanche tonsillaris, to which some people are liable upon the least exposure to cold. Gargles made of this bark have been employed with advantage; and in many cases these, early applied, have appeared useful in preventing those disorders: but, perhaps, they are rendered more efficacious by adding a small portion of alum to them. This bark has been supposed by some to be not less efficacious than the Peruvian bark, especially in the form of extract; but this is believed by a very few, if any at present, though it is not doubted but that the bark may have the power of curing some intermittents.

MED. VIRT. *Strongly astringent.*

PREP. *Extract.*

QUERCUS MARINA: *Fucus vesiculosus* Lin. Sea-Wrack or Sea-Oak; a soft, very slippery, marine plant, common upon rocks that are left dry at the ebb tide; with the leaves somewhat resembling in shape those of the oak tree; the stalks running along the middle of the leaves, and terminated by watery bladders containing either air or a slippery fluid. The vesicles begin in March to fill with a thin

juice; and about the end of July they burst, and discharge a matter as thick as honey.

Dr. Russel relates, that he found this plant an useful assistant to sea-water in the cure of disorders of the glands: that he gave it in powder to the quantity of a dram, and that in large doses it nauseated the stomach: that by burning in the open air it was reduced into a black saline powder*, which seemed, as an internal medicine, greatly to excel the officinal burnt sponge; which was used with benefit, as a dentifrice, for correcting laxities of the gums: that the juice of the vesicles, after standing to putrefy, yields, on evaporation, an acrid pungent salt, amounting to about a scruple from two spoonfuls; that the putrefied juice, applied to the skin, sinks in immediately, excites a slight sense of pungency, and deterges like a solution of soap: that one of the best applications for dissolving hardness, particularly in the decline of glandular swellings, is a mixture of two pounds of the juicy vesicles, gathered in July, with a quart of sea-water, kept in a glass vessel for ten or twelve days, till the liquor comes near to the consistence of very thin honey. The parts affected are to be rubbed with the strained liquor twice or thrice a day, and afterwards washed clean with seawater.

MED. VIRT. *Astringent — Detergent.*

RAPHANI RUSTICANI radix: *Cochlearia Armoracæ* Lin. S. P. Horse-radish; the root. [L. E.]

This plant is sometimes found wild about river-sides, and other moist places; for medicinal and culinary uses, it is cultivated in gardens. It flowers in June, but

* *Æthiops vegetabilis* D. Russel.

rarely perfects its seeds in this country. Horse-radish root has a quick pungent smell, and a penetrating acrid taste; it nevertheless contains in certain vessels a sweet juice, which sometimes exudes upon the surface. By drying, it loses all its acrimony, becoming first sweetish, and afterwards almost insipid. If kept in a cool place, covered with sand, it retains its qualities for a considerable time. The medical effects of this root are to *stimulate the solids, attenuate the juices, and promote the fluid secretions*. It seems to extend its action through the whole habit, and affect the minutest glands. It has frequently done service in some kinds of scurvy and other chronic disorders proceeding from a viscosity of the juices, or obstructions of the excretory ducts. Sydenham recommends it likewise in dropsies, particularly those which sometimes follow intermittent fevers. Both water and rectified spirit extract the virtues of this root by infusion, and elevate them in distillation. Along with the aqueous fluid, an essential oil arises, possessing the whole taste and pungency of the horse-radish.

The root of this plant is only employed, and proves a powerful stimulant, whether used externally, or internally; in the former mode, it readily inflames the skin, and may be employed with advantage in palsy and rheumatism; but should its application be long continued, it produces blisters. Internally taken, it may be so managed as to cure hoarseness: take one dram of the root fresh, scraped down; to which add four ounces of boiling water in a glass vessel closely stopped; and let it infuse for two hours; then add double its weight of sugar, to form a syrup. A tea-spoonful or two of this syrup swallowed

gradually, at least repeated two or three times, will often very suddenly give effectual relief in hoarseness: received into the stomach, it acts as a stimulant, and promotes digestion. Infused in water, and a portion of this infusion being taken with a large draught of warm water, it readily proves emetic; and may either be employed by itself to excite vomiting, or to assist the operation of any other emetics.

Infused in water and taken into the stomach, it proves stimulant to the nervous system; and is thereby useful in palsy: in large quantities it proves heating to the whole body, and useful in chronic rheumatism, whether arising from scurvy or other causes. If the root is exhibited cut into small pieces, and swallowed without chewing, a large quantity may be taken, even a table spoonful; and thus taken every morning for a month together, it will be extremely useful in arthritic cases, which CULLEN supposes, upon the experiments that have been tried, to be of the rheumatic kind. The matter of horse-radish, carried into the blood-vessels, passes readily into the kidneys, and proves a powerful diuretic, and therefore useful in dropsy; and by promoting both urine and perspiration, it has long been known as one of the most powerful antiscorbutics. An infusion of horse-radish in milk has been said to make one of the safest and best cosmetics.

MED. VIRT. *Stimulant — Attenuant.*

RHABARBARUM [L. E.]
Rheum palmatum Lin. S. P. Rhabarb; the root of a plant of the dock kind, which grows spontaneously in China, and endures the colds of our own climate. The propagation of this plant has lately been extended to our gardens, and with a degree of success which promises

in time to supersede the foreign root. Two sorts of rhubarb are met with in the shops. One is imported from Turkey and Russia, in roundish pieces freed from the bark, and a hole through the middle of each; they are externally of a yellow colour, and on cutting appear variegated with lively reddish streaks. *The other*, which is less esteemed, comes immediately from the East Indies, in longish pieces, harder, heavier, and more compact than the foregoing. *The former sort*, unless kept very dry, is apt to grow mouldy and worm-eaten; *the latter* is less subject to these inconveniencies. Some of the more industrious artists are said to fill up the worm-holes with certain mixtures, and to colour the outside of the damaged pieces with powder of the finer sorts of rhubarb, and sometimes with cheaper materials: this is often so nicely done, as effectually to impose upon the buyer, unless he very carefully examines each piece. The marks of good rhubarb are, *that it be firm and solid, and not stinty; that it be easily pulverable, and appear, when powdered, of a fine bright yellow colour: that, upon being chewed, it impart to the spittle a saffron tinge, without proving slimy or mucilaginous in the mouth.* Its taste is subacid, bitterish, and somewhat astringent; the smell slightly aromatic.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with safety even to pregnant women and children. Besides its purgative quality, it is celebrated for an astringent one, by which it strengthens the tone of the stomach and intestines, and proves useful in diarrhoea and disorders proceeding from a laxity of the fibres. Rhubarb in substance operates more powerfully as a cathartic than any of the preparations of it, watery tinctures purge more

than the spirituous ones; *whilst the latter contain in greater perfection the aromatic, astringent, and corroborating virtues of the rhubarb.* The dose, when intended as a purgative, is from a scruple to a dram or more.

The Turkey rhubarb is, among us, universally preferred to the East India sort, though this latter is, for some purposes at least, equal to the other. *It is manifestly more astringent, but has somewhat less of an aromatic flavour.* Tinctures drawn from both with rectified spirit, have nearly the same taste. On distilling off the menstruum, the extract left from the tincture of the East-India rhubarb proved considerably the stronger. They are both the produce of the same climate, and probably the roots of the same plant taken up at different seasons, or cured in a different manner.

When given in a large dose, it will occasion some griping, as other purgatives do; but it is hardly ever heating to the system, or shows the other effects of the more drastic purgatives. It joins well with that of neutral laxatives, and both together operate in a lesser dose than either of them would do singly. The purgative quality is accompanied with a bitterness, which is often useful in restoring the tone of the stomach, when it has been lost; and for the most part its bitterness makes it sit more easy on the stomach than many other purgatives do. The use of rhubarb in substance for keeping the body regular is by no means proper; as the astringent undoes what the purgative had done: but if the rhubarb is chewed in the mouth, and no more is swallowed than what the saliva dissolved, the purpose may be answered; and, in this way employed, it is very useful to dyspeptic persons. The use of rhubarb in a solution produces

nearly similar effects; because the astringent quality is not so largely extracted, as to operate so powerfully as when the rhubarb is employed in substance.

MED. VIRT. *Cathartic—Stomachic.*

PREP. *Toasted—Watery infusion—Spirituuous and vinous Tinctures.*

RHAPONTICI radix: Rhei Rhapontici Lin. Rhapontic; the root of a large roundish-leaved dock, growing wild on the mountain Rhodope in Thrace, whence it was brought into Europe, about the year 1610, by Alpinus: it bears the hardest winters of this climate, and is not unfrequent in our botanic gardens. The root of this plant (which appears evidently to have been the rhubarb of the ancients) is by some confounded with the modern rhubarb, though considerably different both in appearance and quality. The rhapontic is of a dusky colour on the surface, of a loose spongy texture; *considerably more astringent, but less purgative than rhubarb*; in this latter intention, two or three drams are required for a dose.

MED. VIRT. *Laxative.*

RHODODENDRON CHRYS-ANTHEMUM, herba. Lin. [E.] This plant is a new species of the rhododendron of Linnæus, discovered by professor Pallas; a shrub growing near the top of the high mountains in Siberia.

It is called by the natives *chei*, or tea, from their commonly drinking a weak infusion of it, as we do of the Chinese plant of that name. A stronger preparation of it is, however, used by them as a powerful medicine in *arthritic and rheumatic disorders*. Two drams of the stalks and leaves together they infuse in nine or ten ounces of boiling water for a night, in the heat of an oven. This is drunk next morning for a dose; which occasions heat,

thirst, a degree of intoxication, with a singular uneasy kind of sensation, and a sort of vermiculation in the affected parts. The patient is not permitted to quench the thirst this medicine occasions; as liquids would produce vomiting, and diminish the effect of the remedy. In a few hours, all disagreeable symptoms go off, commonly with two or three stools; and the patient finds his disease greatly relieved. A repetition of the dose twice or thrice generally completes the cure.

It is not only recommended in rheumatic and gouty cases, but even in venereal ones; and now generally employed in chronic rheumatism in various parts of Europe. The leaves, which are the parts directed for medicinal use, have a bitterish subastringent taste, and, as well as the bark and young branches, manifest a degree of acrimony. Taken in large doses, they prove a narcotic poison; they produce those symptoms which are occasioned by many of the order Solanaceæ.

Dr. Home has made trial of this remedy in the infirmary at Edinburgh, and the result of his trials, as published in his *Clinical Cases and Experiments*, is, that it is a *very powerful sedative, remarkably diminishing the frequency of the pulse*; but that it was not peculiarly efficacious in removing the acute rheumatism.

MED. VIRT. *Powerfully sedative.*

PREP. *Powder—Decoction.*

RIBESIÆ fructus: Ribes rubrum Lin. S. P. Red currant-bush; the berries [L.]

These have a cool, acidulous, sweet taste, sufficiently agreeable both to the palate and stomach.

The medical qualities of red currants appear to be similar to those of the other subacid fruits, which

are esteemed to be moderately *refrigerating, antiseptic, attenuant, and aperient*. HOFFMAN and BOERHAAVE had great confidence in the efficacy of this fruit in *obstinate visceral obstructions*; also of the white currant, which is nothing more than a species of the red, with properties perfectly analagous. They may be used with considerable advantage to *allay thirst, in most febrile disorders; to lessen an increased secretion of bile; and to correct a putrid and scorbutic state of the fluids, especially in sanguine temperaments*; but in constitutions of a contrary kind they are apt to occasion flatulency and indigestion. The juice is a most agreeable acid in punch. The juice of red currants with sugar is a common beverage at Paris, where it is generally preferred to orgeat or lemonade.

MED. VIRT. *Refrigerant—Detergent.*

PREP. *Jelly.*

RIBES NIGRUM *Lin. S. P.*
Black Currant-bush; the fruit [L.]

This is a native of Britain, delights in swampy grounds, and flowers in May. The fruit is larger than those of the red currant, and we are told, that in some parts of Siberia they grow to the size of a hazel nut. This has the properties in common with the sub-acid fruits, and is also said to be peculiarly useful in sore throats, and to possess a diuretic power in a very considerable degree. Certainly as gargles, from the sensible qualities of this fruit, they seem calculated to be of service in inflammatory angina; but the proofs of their diuretic power want confirmation. BERGIUS considers the leaves of the black currant, which are extremely fragrant, to be *detergent, repellent, and diuretic*.

Both the fruit of this and the red currant afford a pleasant wine; and that made of the former is said by

HALLER to be excellent, not inferior to any made of the true grape, when it is kept to a proper age.

An infusion of the leaves of this bush is said to have the taste of green tea; and, when prepared from the young leaf, is to some people peculiarly agreeable.

MED. VIRT. *Refrigerant — Detergent.*

PREP. *Syrup — Inspissated juice.*

RICINUS: *Ricinus communis*
Lin. S. P. Palma Christi — Oil of the seed, called CASTOR OIL. [L.E.]

This plant, called also *Negro Oil-bush*, grows spontaneously in most of the West-India islands. The seed is generally less than a common horse-bean, ovate, compressed on one side, covered with a brittle shell, speckled with brown and yellow, containing a white kernel inclosed in a white membrane; when fresh, bitterish, and, after some time, exciting a mild sense of heat. This shell is said to have a strong degree of acrimony not discoverable by the taste, to which it seems insipid, but by its effects on other parts.

These seeds contain a large quantity of oil; which is obtained either by boiling them after being bruised in water, and skimming off the oil which rises to the surface, or by expression. That obtained by the former process loses its sweetness from the heat, is whiter, less purgative, and disposed to grow rancid sooner. That oil is the best which is *thick, viscid, greenish, somewhat opaque, almost insipid, or sweet, leaving no sensation of acrimony in the throat*; that is not so good which is *very white, transparent, and of a saffron colour*.

This oil is one of the most agreeable purgatives which can be employed; for it operates sooner after the exhibition than any other, commonly in two or three hours. It seldom gripes, and commonly gives

one, two, or three stools only. It is well suited to cases of *costiveness*, and even to cases of *spasmodic colic*, *vomiting*, *iliac passion*, *asthma* from the fumes of lead, and in *dysenteries*. In the West Indies it is found one of the most certain remedies in the dry belly-ach, or *colica pictorum*. It has also been experienced to be an useful medicine in various febrile complaints, bilious colics, nephritic cases, worms, especially the tape-worm.

It seldom heats or irritates the rectum, therefore well suited to hæmorrhoidal persons. In large doses it sometimes creates great nausea, to prevent which, in the West Indies they give it with rum: but the best mode is to mix it well with one part of tincture of senna and three of the oil; it is less nauseous to the taste and sits easier on the stomach. The common dose to infants is a dram, or more; half an ounce to an adult; but many require a double dose.

Of this medicine, if it be frequently repeated, the dose may be diminished gradually. Some, after repeatedly taking it, have found that two drams act as fully at last as half an ounce did at first.

MED. VIRT. *Laxative* — *Anthelmintic*.

PREP. *Expressed oil*.

ROSA DAMASCENA: *Rosa censifolia* Lin. The damask rose [L.E.]

This elegant flower is common in our gardens. Its smell is very pleasant, and almost universally admired; its taste bitterish and sub-acrid. In distillation with water, it yields a small portion of a butyraceous oil, whose flavour exactly resembles that of the roses. This oil, and the distilled water, are very useful and agreeable cordials. Hoffman strongly recommends them as of singular efficacy for raising the strength, cheering and recruiting the spirits, and allaying pain; which

they perform without raising any heat in the constitution, rather abating it when inordinate. Damask roses, besides their cordial aromatic virtue, which resides in their volatile parts, have a mildly purgative one, which remains entire in the decoction left after the distillation. This, with a proper quantity of sugar, forms an agreeable laxative syrup.

MED. VIRT. *Aromatic* — *Gently laxative*.

PREP. *Distilled water* — *Syrup*.

ROSA RUBRA: *Rosa gallica* Lin. The red rose [L.E.]

This has very little of the fragrance of the foregoing pale sort; and, instead of its purgative quality, a mild, gratefully astringent one, especially before the flower has opened. This is considerably improved by hasty exsiccation; but both the astringency and colour are impaired by slow drying. Some of the Arabian physicians, particularly AVICENNA and MESUE, esteemed this highly in phthisical cases, and mention some instances of its success. RIVERIUS has also recited several others. But as the use of the conserve of this flower was constantly joined with that of milk, and other farinacea, the recoveries could not be imputable to the roses alone, though it may be supposed they contributed much towards them from their mild astringent and corroborant virtues.

MED. VIRT. *Astringent* and *corroborant*.

PREP. *Infusion* — *Honey* — *Conserve*.

RORISMARINI *summitates*, et *flores*: *Rorismarini officinalis* Lin. S. P. Rosemary; the tops and flowers [L.E.]

This is a native of Spain, Italy, and the southern parts of France, where it grows in great abundance upon dry gravelly grounds; in the like soils it thrives best with us,

and likewise proves stronger in smell, than when produced in moist rich ones. This observation obtains in almost all the aromatic plants.

Rosemary has a fragrant smell, and a warm pungent bitterish taste, approaching to those of lavender. The leaves and tender tops are strongest; next to these the cup of the flower; the flowers themselves are considerably the weakest, but most pleasant. Aqueous liquors extract great share of the virtues of rosemary leaves by infusion, and elevate them in distillation; along with the water arises a considerable quantity of essential oil, of an agreeable strong penetrating smell. Pure spirit extracts in great perfection the whole aromatic flavour of the rosemary, and elevates very little of it in distillation; hence the resinous mass, left upon abstracting the spirit, proves an elegant aromatic, very rich in the peculiar qualities of the plant. The flowers of rosemary give over great part of their flavour in distillation with pure spirit; by watery liquors, their fragrance is much injured; by heating, destroyed.

Rosemary is considered as a stimulant and corroborant of the nervous system, and has been recommended in various affections supposed to proceed from debilities and torpid action of the brain and nervous system, as in particular head-achs, deafness, giddiness, palsies, &c. and in some hysterical and dyspeptic symptoms. But the stimulant virtue of the rosemary is not supposed to be powerful enough to reach the sanguiferous system. It has however the character of an emmenagogue, and is by BERGIUS considered also as a resolvent and nervous corroborant, and useful in chlorosis. By many people an infusion of the leaves is drank as tea for breakfast.

MED. VIRT. *Aromatic and cordial.*

PREP. *Essential oil — Spirit, called Hungary water.*

RUBIÆ radix: *Rubiæ tinctorum* Lin. S. P. Madder; the root [L. E.]

Madder is raised in some of our gardens for medicinal purposes: it was formerly cultivated among us, in quantity, for the use of the dyers, who are at present supplied from Holland and Zealand. It has little or no smell; a sweetish taste, mixed with a little bitterness. The virtues attributed to it, are those of a detergent, deobstruent, and diuretic, whence it has been usually ranked among the opening roots, and recommended in obstructions of the viscera, particularly of the kidneys and liver, in coagulations of the blood from falls or bruises, in the jaundice, and beginning dropsies. It has also been recommended as an emmenagogue, and in ricketty affections. With regard to its diuretic effect, CULLEN does not think that always certain, never having occurred to him. As a remedy for the jaundice, it has the authority of SYDENHAM. As an emmenagogue it has been given by Dr. HOME in doses from ʒj to ʒss of the powder, or two ounces of the decoction, three or four times a day — though this medicine failed with Dr. CULLEN, and several other practitioners.

It is observable, that this root, taken internally, tinges the urine of a deep red colour; and in the Philosophical Transactions we have an account of its producing a like effect upon the bones of animals who had it mixed with their food. All the bones, particularly the more solid ones, were changed, both externally and internally, to a deep red; but neither the fleshy nor cartilaginous parts suffered any alteration: some of these bones, ma-

cerated in water for many weeks together, and afterwards steeped and boiled in spirit of wine, lost none of their colour, nor communicated any tinge to the liquors. This root appears therefore to be possessed of great subtilty of parts, whence its medical virtues seem to deserve inquiry.

MED. VIRT. *Deobstruent* — *Detergent*.

RUBI IDÆI fructus, *Lin. S. P.* The raspberry-bush; the fruit [L.]

This shrub is common in our gardens; and has likewise, in some parts of England, been found wild. It flowers in May, and ripens its fruit in July. Raspberries have a pleasant sweet taste, accompanied with a peculiarly grateful flavour; on account of which they are chiefly valued. As to their virtues, they moderately quench thirst, abate heat, strengthen the viscera, and promote the natural excretions.

MED. VIRT. *Refrigerant*,

PREP. *Syrup*.

RUBI VULGARIS folia, fructus: *Rubi fruticosi Lin. S. P.* The bramble, or black-berry bush; its leaves and fruit.

The shrub is frequently found wild in woods and hedges. The berries have a faint taste, without any thing of the agreeable flavour of raspberries: the leaves are somewhat astringent.

RUSCI, five Brusci, radix: *Rusci aculeati Lin.* Butcher's-broom, or knee-holly; the root.

This is a small prickly plant, sometimes found wild in woods. The root has a soft sweetish taste, which is followed by a bitterish one. It is one of the five aperient roots; and in this intention is sometimes made an ingredient in apozems and diet-drinks, for opening slight obstructions of the viscera, purifying the blood and juices, and promoting the fluid secretions.

MED. VIRT. *Aperient*.

RUTÆ herba: *Rutæ graveolentis Lin.* Broad-leaved rue; the herb [L. E.]

This is a small shrubby plant, met with in gardens, where it flowers in June, and holds its green leaves all the winter. We frequently find in the markets a narrow-leaved sort, which is cultivated by some in preference to the other, because its leaves appear variegated, during the winter, with white streaks.

Rue has a strong, ungrateful smell, and a bitterish, penetrating taste. The leaves, when in full vigour, are extremely acrid, insomuch as to inflame and blister the skin, if much handled. With regard to their medicinal virtues, they are powerfully stimulating, attenuating and detergent; and hence, in cold phlegmatic habits, they quicken the circulation, dissolve tenacious juices, open obstructions of the excretory glands, and promote the fluid secretions. The writers on the materia medica in general have entertained a very high opinion of the virtues of this plant. Boerhaave is full of its praises, particularly of the essential oil, and the distilled water cohobated or re-distilled several times from fresh parcels of the herb. After somewhat extravagantly commending other waters prepared in this manner, he adds, with regard to that of rue, that the greatest commendation he can bestow upon it, falls short of its merit: "What medicine (says he) can be more efficacious for promoting sweat and perspiration, for the cure of the hysterical passion, and for expelling poison?" Notwithstanding this authority, the resisting contagion, or expelling it when taken into the machine, are held to be absolutely without foundation. However, it is doubtless a powerful stimulant of the foetid kind, and has, like them, attenuant, deobstruent, and antispasmodic powers, adapted

to phlegmatic habits, or weak and hysterical constitutions suffering from retarded or obstructed secretions. An extract made by rectified spirit contains, in a small compass, the whole virtues of the rue; this menstruum taking up by infusion all the pungency and flavour of the plant, and elevating nothing in distillation. With water, its peculiar flavour and warmth arise; the bitterness, and a considerable share of the pungency, remaining behind.

MED. VIRT. *Stimulant — Attenuant and detergent.*

PREP. *Extract.*

SABINÆ folia seu summitates : *Juniperi Sabinæ* Lin. S. P. Savin; the leaves or tops [L. E.]

This is an evergreen shrub, clothed with small, somewhat prickly leaves. It does not produce fruit till very old, and hence has been generally reputed barren. The leaves have a bitter, acrid, biting taste; and a strong disagreeable smell: distilled with water, they yield an essential oil, in larger quantity (as Hoffman observes) than any other known vegetable, the turpentine-tree alone excepted.

Savin is a warm irritating aperient medicine, heats and stimulates the whole system; is capable of promoting sweat, urine, and all the glandular secretions; and is found of service in obstructions of the uterus, or other viscera, proceeding from a laxity and weakness of the vessels, or a cold sluggish indisposition of the juices.

It is certainly a powerful and active medicine, and the most efficacious in the Materia Medica as an emmenagogue. BERGIUS not only considers it as an emmenagogue, but capable of procuring abortion, and increasing the circulation of the blood. When it fails to promote the catamenia, as it sometimes does, it is

to be ascribed generally to its being exhibited in too small doses. It should be given from a scruple to a dram twice a day, and is well suited to the debile, but improper in plethoric habits, from its heating quality; and therefore in them repeated bleedings are necessary before its exhibition.

Externally, favin is recommended to cleanse foul ulcers, take off syphilitic warts, &c.

MED. VIRT. *Stimulating—Aperient.*

PREP. *Essential oil — Extract — Compound powder.*

SACCHARUM NON PURIFICATUM. Soft sugar.

SACCHARUM PURIFICATUM, vel BISCOCTUM. Double-refined sugar [L. E.]

SACCHARUM CANDUM. Sugar-candy.

Sugar is the essential salt of the *arundo saccharifera*, a beautiful large cane growing spontaneously in the East Indies, and some of the warmer parts of the West, and cultivated in great quantity in our American plantations. The expressed juice of the cane is clarified with the addition of lime-water (without which it does not assume the form of a true sugar) and boiled down to a due consistence; when, being removed from the fire, the saccharine part concretes from the grosser unctuous matter called treacle, or melasses. This, as yet impure or brown sugar, is farther purified in conical moulds, by spreading moist clay on the upper broad surface: the watery moisture, slowly percolating through the mass, carries with it considerable part of the remains of the treacly matter. This clayed sugar, imported from America, is by our refiners dissolved in water, the solution clarified by boiling with whites of eggs and despumation, and, after due evaporation, poured into moulds: as soon

as the sugar has concremented, and the fluid part drained off, the surface is covered with moist clay as before. The sugar, thus once refined, by a repetition of the process, becomes the double-refined sugar of the shops. The candy, or crystals, are prepared by boiling down solutions of sugar to a certain pitch, and then removing them into a hot room; with sticks set across the vessel for the sugar to shoot upon. These crystals prove of a white or brown colour, according as the sugar was pure or impure.

The uses of sugar as a sweet are sufficiently well known. The impure sorts contain an unctuous or oily matter, in consequence of which they prove emollient and laxative. The crystals are most difficult of solution, and hence are properest where this soft lubricating sweet is wanted to dissolve slowly in the mouth.

There can be no doubt but sugar in its crude state affords a considerable degree of nourishment, both as combined with various vegetable matters, and as separated by art. Those animals which wholly feed upon it in the sugar-islands become remarkably corpulent; and the negro children, whose diet happens to be sometimes, for a season, confined to melasses, are easily distinguished from others by their superior bulk. They are, however, more disposed to worms, and are likewise less active and healthy. In Asia, elephants and other animals are fed upon sugar. That the liberal use of sugar has however to many stomachs greatly impaired the digestive powers, and laid the foundation for various complaints, is highly probable; but at the same time it must be admitted, that several indulge largely in this article with impunity at least, if not with advantage. BERGIIUS states sugar to be *saponaceous—edulcorant—relax-*

ant—pectoral—vulnery—antiseptic and *nutrient*. CULLEN classes it with the *attenuantia*. In *catarrhal affections*, honey and sugar are frequently employed: it has been used with advantage in *calculous complaints*; and, from its known power of preserving animal and vegetable substances from putrefaction, it has been given as an *antiseptic*.

MED. VIRT. *Emollient—Laxative.*

PREP. *Syrupus simplex.*

SAGAPENUM [*L. E.*] a concrete juice brought from Alexandria, either in distinct tears, or run together in large masses. It is outwardly of a yellowish colour, internally somewhat paler, and clear like horn, grows soft upon being handled, and sticks to the fingers; its taste is hot and biting; the smell disagreeable, by some resembled to that of a leek, by others to a mixture of asafetida and galbanum.

Sagapenum is an useful *antennant, deobstruent, and antispasmodic*, and frequently prescribed either alone, or in conjunction with ammoniacum, or galbanum, for *opening obstructions in the viscera, and in hysterical disorders arising from a deficiency of the menstrual purgations*. It likewise *deterges the pulmonary vessels, and proves of considerable service in some kinds of asthma*, where the lungs are oppressed by viscid phlegm. It is most commodiously given in the form of pills. From five grains to half a dram may be given every night or oftener, and continued for some time. When sagapenum is scarce, the druggists usually supply its place with the larger and darker coloured masses of bdellium, broken into pieces; which are not easily distinguished from it.

SAGO, *Cycas circinalis* Lin. This is the produce of an oriental tree, called by C. Bauhine *palmarum reserens arbor farinifera*. The medullary part of the tree is beaten with

water, and made into cakes, which are used by the Indians as bread: these reduced into granules, and dried, are the sago brought to us. It is moderately nutritious, though not perhaps superior to our own grain. With water, milk, or broth, it forms an agreeable jelly, and is much used in phthical and convalescent cases.

SAL AMMONIACUS: *Ammonia muriata.* Sal ammoniac [L. E.]

This is an artificial saline concrete, said to be prepared by sublimation from the foot of cow-dung. It is brought to us from Egypt, in large round cakes, convex on one side, and concave on the other; and sometimes in conical loaves. On breaking, they appear composed of needles, or striae, running transversely. The best are almost transparent, colourless, and free from any visible impurities: those most commonly met with are of a grey yellowish colour on the outside, and sometimes black, according as the matter is more or less impure. The taste of this salt is very sharp and penetrating. It dissolves in twice its weight, or a little less, of water: and upon evaporating a part of the menstruum, concretes again into long shining spicular, or thin fibrous plates, like feathers.

Sal ammoniac appears from experiments to be composed of marine acid united with a volatile alkali; hence called *ammonia muriata*. If mingled with fixed salts, or absorbent earths, and exposed to a moderate fire, a large quantity of pure volatile salt sublimes, the acid remaining united with the intermediate; if treated in the same manner with quicklime, an exceeding penetrating volatile spirit arises, but no solid salt is obtained. Exposed alone to a considerable heat, it sublimes entire, without any alteration of its former proper-

ties: ground with certain metallic substances, it elevates some part of them along with itself, and concretes with the remainder into a mass, which readily flows into a liquor in a moist air. This appears in most respects similar to a saturated solution of the metal made directly in spirit of salt.

Pure sal ammoniac is a perfectly neutral salt, capable of attenuating viscid humours, and promoting a diaphoresis, or the urinary discharge, according to certain circumstances in the constitution, or as the patient is managed during the operation. If a dram of the salt be taken, dissolved in water, and the patient kept warm, it generally proves sudorific; by moderate exercise, or walking in the open air, its action is determined to the kidneys; a large dose gently loosens the belly; and a still larger proves emetic. This salt is recommended by many as an excellent febrifuge, and by some has been held a great secret in the cure of intermittents. It is undoubtedly a powerful aperient, and seems to pass into the minutest vessels; and, as such, may in some cases be of service, either alone, or joined with bitters, or the bark, where the latter would by itself produce dangerous obstructions, or aggravate those already formed. This salt is sometimes employed externally as an antiseptic, and in lotions and fomentations, for oedematous tumours: as also in gargarisms for inflammations of the tonsils, and for attenuating and dissolving thick viscid mucus. Some use it in form of lotion, in certain ulcers, and for removing common warts.

MED. VIRT. *Deobstruent—Sudorific—Diuretic.*

SAL CATHARTICUS AMARUS: *Magnesia vitriolata* [L. E.]

The bitter purging salt; extracted from the bitter liquor remaining after the crystallization of common

salt from sea-water. It was first prepared as a cheap substitute to the salt of the Epsom and other purging mineral waters, from which it does not considerably differ, either in sensible qualities or medical effects. We usually meet with it in minute crystals, of a snowy appearance; dissolved in water, and crystallized afresh, it concretes, if properly managed, into larger ones, of a rectangular prismatic figure, resembling those of the artificial cathartic salt of Glauber, for which they are sometimes substituted in the shops.

All these salts have a penetrating bitterish taste: they dissolve in less than an equal weight of water: in a moderate heat, they melt, bubble up into blisters, and soon change into a white spongy mass, with the loss of above half their weight. This calx tastes bitterer than the salts did at first, and almost totally dissolves again in water. The acid of these salts is chiefly the vitriolic: the basis of the natural is a fine absorbent earth; of the artificial, an alkaline salt, the same with the basis of sea-salt. Hence, upon adding alkaline salts to a solution of the salts of Glauber, no change ensues: whilst the salts obtained from the purging waters, or the bittern of marine waters, grows milky upon this addition, and deposit their earth, the alkaline salt being taken up its place.

The sal catharticus is a mild and gentle purgative, operating with sufficient efficacy, and in general with ease and safety, rarely occasioning any gripes, sickness, or the other inconveniencies with which purgatives of the resinous kind are too often accompanied. Six or eight drams may be dissolved for a dose in a proper quantity of common water; or four, five, or more, in a pint, or quart, of the purging waters. These liquors may likewise be so ma-

naged as to promote evacuation by the other emunctories. If the patient be kept warm, they increase perspiration; by moderate exercise in a cool air, the urinary discharge.

MED. VIRT. *Laxative.*

PREP. *Magnesia.*

SAL COMMUNE: *Sal muriaticus: Soda muriata* [L. E.] Common, or alimentary salt. This is a neutral salt, differing from most others in occasioning drought when swallowed. It dissolves in somewhat less than three times its weight of water; the solution slowly evaporated, and set to shoot, affords cubical crystals, which unite together into the form of hollow truncated pyramids. Exposed to the fire, it crackles and flies about, or decrepitates, as it is called; soon after it melts, and appears fluid as water. A small quantity of this salt, added to the nitrous acid, enables it to dissolve gold, but renders it unfit for dissolving silver. If a solution of silver be poured into liquors containing even a minute portion of common salt, the whole immediately grows turbid and white; this phenomenon is owing to the precipitation of the silver.

This salt is either found in a solid form in the bowels of the earth, or dissolved in the waters of the sea or saline springs.

1. *Sal gemma.* Rock salt. This is met with in several parts of the world, but in the greatest plenty in certain deep mines, of prodigious extent, near Cracow, in Poland; some is likewise found in England, particularly in Cheshire. It is for the most part very hard, sometimes of an opaque snowy whiteness, sometimes of red, green, blue, and other colours. When pure, it is perfectly transparent and colourless; the other sorts are purified by solution in water and crystallization, in order to fit them for the common uses of salt.

2. *Sal marinus*. The salt extracted from sea-water and saline springs. Sea-waters yield from one-fiftieth to one-thirtieth their weight of pure salt. Several springs afford much larger quantities; the celebrated ones of our own country at Nantwich, Northwich, and Drokwich, yield (according to Dr. Brownrigg) from one-sixth to somewhat more than one-third. There are two methods of obtaining the common salt from these natural solutions of it; the one, a hasty evaporation of the aqueous fluid till the salt begins to concreate, and fall in grains to the bottom of the evaporating pan, whence it is raked out, and set in proper vessels to drain from the brine or bittern: the other, a more slow and gradual evaporation, continued no longer than till a saline crust forms on the top of the liquor, which, upon removing the fire, soon begins to shoot, and run into crystals of a cubical figure. In the warmer climates, both these processes are effected by the heat of the sun. The salts obtained by them differ very considerably: that got by a hasty evaporation is very apt to relent in a moist air, and run per deliquium; an inconvenience to which the crystallized salt is not subject: this latter is likewise found better for the preserving of meat, and for sundry other purposes.

Common salt, in small quantities, is supposed to be warming, drying, and to promote appetite and digestion. In large doses, as half an ounce, it proves cathartic. It is sometimes used to check the operation of emetics, and make them run off by stool; and as a stimulus in gylsters.

MED. VIRT. Stimulant--Cathartic.

SALEP, a celebrated restorative among the Turks, is probably the prepared root of certain plants of the orchis kind. This drug, as sometimes brought to us, is

in oval pieces, of a yellowish white colour, somewhat clear and pellucid, very hard, and almost horny, of little or no smell, and tasting like gum tragacanth. Satyrion root, boiled in water, freed from the skin, and afterwards suspended in the air to dry, gains exactly the same appearance; the roots thus prepared dissolve in boiling water into a mucilage. Geoffroy, who first communicated this preparation of orchis, recommends it in consumptions, in bilious dysenteries, diarrhoeas, dysury, calculous complaints, and disorders of the breast proceeding from an acrimony of the juices.

Salep, as an article of diet, is considered to be extremely nutritious. An ounce of this powder with the same quantity of portable soup which is dried, dissolved in two quarts of water, will be sufficient subsistence for a man for one day; it forms a rich thick jelly. Besides the complaints above specified, salep is recommended in the symptomatic fever arising from absorption of pus, from ulcers in the lungs, wounds, and from amputations: and used plentifully is an admirable demulcent, and well adapted to resist the dissolution of the crasis of the blood, which is evident in these cases. The properest time for gathering the root is when the seed is formed and the stalk is ready to fall, because the new bulb, of which the salep is made, is then arrived at its full maturity.

MED. VIRT. Coagulant and corroborative.

SALIX [E.] *Salix fragilis* Lin. Common white willow: a pretty large tree, frequent in woods and moist places; it differs from the other willows, in the oblong pointed serrated leaves being hoary on both sides, though most so on the lower, and in the branches being brittle.

The bark of this tree possesses a

considerable degree of bitterness and astringency, and has lately been found an *useful medicine in agues*, of which many persons have been cured by taking a dram of the powdered bark every four hours during the intermissions; though in some cases it was necessary to join to it a little Peruvian bark (see the Philosophical Transactions for the year 1763). It has however been thought a good substitute for the bark, and has upon trial stopt the paroxysms of intermittents, and has been recommended in other cases requiring tonic and astringent remedies.

MED. VIRT. *Corroborant.*

SALVIE *officinalis folia. Lin.*
S. P. Sage, or sage of virtue; the leaves [L. E.]

There are different varieties of sage common in our gardens, and flower in May and June: the green and red common sages differ no otherwise than in the colour of the leaves; the seeds of one and the same plant produce both: the small sort is a distinct species; its leaves are narrower than the others, generally of a whitish colour, and never red; most of them have at the bottom a piece standing out on each side in the form of ears. Both sorts are moderately warm aromatics, accompanied with a slight degree of astringency and bitterness; the small sort is the strongest, the large most agreeable.

In ancient times sage was celebrated as a medicine of great efficacy, insomuch that its name was derived from its salutary qualities — *Cur moriatur homo, cui salvia crescit in horto?* — *Salvia salvatrix, naturæ conciliatrix* — *Salvia cum ruta faciunt tibi pocula tula*. But at present few practitioners consider it as an article of much importance in the materia medica.

Its real effects are, to moderately warm and strengthen the vessels; and

hence, in cold phlegmatic habits, it excites appetite, and proves serviceable in debilities of the stomach and nervous system. The best preparation for these purposes is an infusion of the dry leaves, drunk as tea; or a tincture, or extract, made with rectified spirit, taken in proper doses; these contain the whole virtues of the sage; the distilled water and essential oil, only its warmth and aromatic quality, without any thing of its roughness or bitterness. Aqueous infusions of the leaves, with the addition of a little lemon juice, prove an *useful diluting drink in febrile disorders, of an elegant colour, and sufficiently acceptable to the palate.*

Infused in spirits or wine, Van Swieten found it remarkably efficacious in stopping night sweats; and a strong infusion of sage in warm water has been found to answer the same purpose. He also found it useful in restraining too great a flow of milk from the breasts of women after they had weaned their children. And from the experiments of ETHINGER it is discovered to have a considerable share of antiseptic power.

MED. VIRT. *Stimulant — Astringent.*

SAMBUCI *flores, baccæ, cortex interior: Sambuci nigrae Lin.* Common black-berried elder; the inner bark, flowers, and berries [L. E.]

This is a large shrub, frequent in hedges. It flowers in May, and ripens in September. The INNER GREEN BARK of its trunk has scarcely any smell, and very little taste; on first chewing, it impresses a degree of sweetness, which is succeeded by a slight acrimony, which continues for some time, and which it imparts both to watery and spirituous menstrua. It is strongly cathartic, and is recommended as an effectual hydragogue. Three handfulls boiled in one quart of milk and

water to a pint, of which one half is to be taken at night, and the other in the morning, and repeated for several days, usually operates both upwards and downwards; and from these evacuations its utility is derived. Or an infusion of it in wine, or the expressed juice, in the dose of half an ounce, or an ounce, is said to purge moderately, and in *small doses to prove an efficacious deobstruent*, capable of promoting all the fluid secretions. The *young buds, or rudiments of the leaves, are strongly purgative*, and act with so much violence as to be deservedly accounted unsafe. The **FLOWERS** are very different in quality: these have an agreeable aromatic flavour, which they give over in distillation with water, and impart by infusion to vinous and spirituous liquors. Infusions made from the fresh flowers are gently laxative and aperient; when dry, they are supposed to be diaphoretic; and particularly useful in erysipelatous and cuticular disorders. Externally they are used in fomentations, in glysters, and for making an ointment. The **BERRIES** have a sweetish, not unpleasant taste: nevertheless, eaten in substance, they offend the stomach: the expressed juice, inspissated to the consistence of a rob, *proves an useful aperient medicine; it opens obstructions of the viscera, promotes the natural evacuations*, and, if continued for a length of time, *does considerable service in sundry chronic disorders*. It is observable, that this juice (which in its natural state is of a purplish colour) tinges vinous spirits of a deep red.

The berries are said to be poisonous to poultry, and the flowers to peacocks. If turnips, cabbages, fruit-trees, or corn, which are subject to blight from a variety of insects, are whipped with the green leaves and branches of elder: the insects will not attack them.

MED. VIRT. *Cathartic—Aromatic—Aperient.*

PREP. *Ointment—Inspissated juice.*

SANGUIS DRACONIS [L.E.] Dragon's-blood, a resin brought from the East-Indies, either in oval drops, wrapped up in flag leaves, or in large masses, composed of smaller tears. The writers on the materia medica in general give the preference to the former, though the latter is not unfrequently of equal goodness; the fine dragons-blood of either sort breaks smooth, free from any visible impurities, of a dark red colour, which changes, upon being powdered, into an elegant bright crimson. Several artificial compositions, coloured with the true dragons-blood, or Brazil wood, are sometimes sold in the room of this commodity: some of these dissolve, like gums, in water; others crackle in the fire, without proving inflammable; whilst the *genuine sanguis draconis readily melts and catches flame, and is not acted on by watery liquors*. It totally dissolves in pure spirit, and tinges a large quantity of the menstruum of a deep red colour: it is likewise soluble in expressed oils, and gives them a red hue, less beautiful than that communicated by anchusa. This drug, in substance, has no sensible smell or taste; when dissolved, it discovers *some degree of warmth and pungency*. It is usually looked upon as a *gentle astringent*, and sometimes directed as such, in extemporaneous prescription, *against seminal gleets, the fluor albus, and other fluxes*: in these cases, it produces the general effects of resinous bodies, *slightly incrassating the fluids, and somewhat strengthening the solids*. It is also astringent, and used in uterine hæmorrhages, with alum; but now gives place to a more efficacious gum resin, called KINO, that by excision exudes from an African tree called *Pau de sang*.

MED. VIRT. *Astringent.*

SANTALUM CITRINUM

[E.] Yellow saunders: a pale yellowish wood brought from the East Indies; of a pleasant smell, and a bitterish aromatic taste, accompanied with an agreeable kind of pungency. This elegant wood might undoubtedly be applied to valuable medical purposes, though at present very rarely made use of. It is scarcely ever directed in extemporaneous prescription. Distilled with water, it yields a fragrant essential oil, which thickens, in the cold, into the consistence of a balsam. Digested in pure spirit, it imparts a rich yellow tincture; which being committed to distillation, the spirit arises, without bringing over any thing considerable of the flavour of the saunders. The residuum contains the virtue of six times its weight of the wood. Hoffman looks upon this extract as *a medicine of similar virtues to ambergris*; and recommends it as *an excellent restorative in great debilities*.

SANTALUM RUBRUM [L.

E.] *Pterocarpus Santalinus* Lin. S. P. Red saunders; a wood brought from the East Indies, in large billets, of a compact texture, a dull red, almost blackish, colour on the outside, and a deep brighter red within. This wood has no manifest smell, and little or no taste. It has been commended as *a mild astringent, and a corroborant of the nervous system*; but these are qualities that belong only to the yellow sort.

The principal use of red saunders is as a colouring drug; it communicates a deep red to rectified spirit, but gives no tinge to aqueous liquors; a small quantity of the resin, extracted by means of spirit, tinges a large one of fresh spirit, of an elegant blood red. There is scarce any oil, that

of lavender excepted, to which it communicates its colour. Geoffroy, and others, take notice, that the Brazil woods are sometimes substituted for red saunders; and the college of Bruffels are in doubt whether all that is sold among them for saunders, be not really a wood of that kind. According to the account which they have given, their saunders is certainly the Brazil wood; the distinguishing character of which is, that it imparts its colour to common water.

SANTONICUM [L. E.] *Artemisia santonicum* Lin. S. P. The top, commonly called *worm-feed*. The produce of a plant of the wormwood or mugwort kind, growing in the Levant.

It is a small, light, chaffy seed-like appearance, composed as it were of a number of thin membranous coats, of a yellowish colour, an unpleasant smell, and a very bitter taste. These are celebrated for anthelmintic virtues (which they have in common with other bitters), and are sometimes taken in this intention, either along with melasses, or candied with sugar: their unpleasant taste renders the form of a powder or decoction inconvenient. They are not very often met with genuine in the shops.

They are also considered as *stomachic* and *emmenagogue*. The quality of destroying worms has been attributed solely to their bitterness: but from the experiments of BAGLIVI and REDI, they possess some other more powerful property; for, immersed in a strong infusion of these seed-like tops, worms were killed in five, seven, or eight hours; whilst in the infusion of wormwood and that of agaric, they continued to live more than thirty hours.

To adults, the dose in substance is from one to two drams twice a

day; but the spirituous extract is the most eligible preparation.

MED. VIRT. *Anthelmintic.*

PREP. *Extract.*

SAPO [L. E.] *Sapo ex oleo olivæ et natro confectus* [L.] White Spanish soap [E.]

SAPO MOLLIS. Common soft soap.

SAPO NIGER, seu *Melanofmegma*. Black soft soap.

Soap is composed of expressed vegetable oils, or animal fats, united with alkaline lixivium. The WHITE HARD SOAP is made with the finer kinds of oil olive; the COMMON SOFT SORT, with coarser oils, fat, tallow, or a mixture of all these; and THE BLACK (as is said) with train oil.

The purer hard soap is the only sort intended for internal use. This triturated with oily or resinous matters, renders them soluble in water, and hence becomes an useful ingredient in pills composed of resins, promoting their dissolution in the stomach, and union with the animal fluids; but gum mucilage is found to answer the purpose better. Boerhave was a great admirer of soap; and in his private practice seldom prescribed any resinous pills without it; unless where an alkaliescent or putrid state of the juices forbade its use. From the same quality, soap likewise seems well fitted for dissolving such oily or unctuous matters as it may meet with in the body, *attenuating viscid juices, opening obstructions of the viscera, and deterging all the vessels it passes through.* It is likewise a powerful menstruum for the human calculus: a solution of it in lime water is one of the strongest dissolvents that can be taken with safety into the stomach; the virtue of this composition is considerably greater than the aggregate of the dissolving powers of the soap and lime water when unmixed,

Acids should never be used with soap, because they decompose it, by uniting with the alkaline salt, and thus separating it from the oil. In moderate quantity, soap seldom can enter the circulation in its perfect state; because, as there always is more or less of an acid in the stomach, the soap must be decomposed. It is therefore considered as a very good corrector of acidity in the primæ viæ. If therefore any service is to be expected from soap as a deobstruent and detergent, it must be given in larger doses than are commonly prescribed, or they should be much more frequently repeated.

Soap united with rectified spirit, camphor, and essential oils, forms an agreeable external application for superficial tumours, or others more deeply seated, strains, bruises, &c.

The soft soaps are more penetrating and acrimonious than the hard. The only medical use of these is for some external purposes.

MED. VIRT. *Resolvent — Stimulating.*

PREP. *Plaster — Liniment — Balsam — Pills.*

SAPONARIÆ folia, radix: *Saponaria officinalis* Lin. Soapwort, or bruise wort; the herb and root.

This grows wild, though not very common, in low wet places, and by the sides of running waters; a double-flowered sort is frequent in our gardens. The leaves have a bitter, not agreeable taste; agitated with water, they raise a saponaceous froth, which is said to have nearly the same effects with solutions of soap itself in taking out spots from cloths, and the like. The roots taste sweetish, and somewhat pungent; and have a light smell like those of liquorice: digested in rectified spirit, they yield

a strong tincture, which loses nothing of its taste or flavour in being inspissated to the consistency of an extract. This elegant root has not come much into practice among us, though it promises, from its sensible qualities, to be a medicine of considerable utility. It is greatly esteemed by the German physicians as an *aperient*, *corroborant*, and *sudorific*; and preferred by the college of Wirtemberg, Stahl, Neumann, and others, to *sarsaparilla*.

MED. VIRT. *Aperient* — *Corroborant* — *Sudorific*.

SARCOCOLLA [L.] *Pinæa sarcocolla* Lin. A concrete juice, brought from Persia and Arabia, in small, whitish, yellow grains, with a few of a reddish, and sometimes of a deep red colour, mixed with them; the whitest tears are preferred, as being the freshest. Its taste is bitter, accompanied with a dull kind of sweetness. This drug dissolves in watery liquors, and appears to be chiefly of the gummy kind, with a small mixture of resinous matter. It is principally celebrated for *conglutinating wounds and ulcers* (whence its name *σαρκocolλα* flesh-glue), a quality to which neither this, nor any other drug, has a just title.

MED. VIRT. *Vulnerary*.

SARSAPARILLA [L. E.] *Smilax Sarsaparilla* Lin. S. P. A root brought from the Spanish West Indies. It consists of a great number of long strings hanging from one head. The long roots (the only part made use of) are about the thickness of a goose-quill, or thicker, flexible, composed of fibres running their whole length, so that they might be stript into pieces from one end to the other. They have a glutinous, bitterish, not ungrateful taste; and no smell. This root was first brought into Europe by the Spaniards, about the year 1563, with the character of a

specific for the cure of the lues venerea, which made its appearance a little before that time, and *likewise of several obstinate chronic disorders*. Whatever good effects it might have produced in the warmer climates, it proved unsuccessful in this; inasmuch that many have denied it to have any virtue at all. It appears however from experience, that, though greatly unequal to the character which it bore at first, it is in some cases of considerable use as a *sudorific*, where more acrid medicines are improper. Dr. CULLEN says, "Were I to consult my own experience alone, I should not give this root a place in the materia medica; for, tried in every shape, I never have found it an effectual medicine in syphilis, or any other disease: still it is frequently used by other physicians, who appear to have a high opinion of its efficacy; and, though they do not allow that it will alone cure the lues venerea, they assert that, given with mercury, the cure becomes more expeditious. In most of the London hospitals it is frequently in use; and patients, after the use of mercury, have been known to be restored much sooner to their health by this root, than could be accomplished by any other known medicine, especially when given in powder."

In *rheumatic affections*, *scrophula*, and *cutaneous affections*, or where the acrimony of the fluids prevails, this root is recommended; but should be continued in large doses for a considerable time; viz. two drams of the powder with half a pint of a strong decoction, twice a day.

The preparations are a *decoction* and *extract* made with water; a decoction of half an ounce of the root, or a dram of the extract, which is equivalent thereto, may be taken for a dose.

MED. VIRT. *Alterant* — *Diaphoretic*.

PREP. *Decoction* — *Extract*.

SASSAFRAS [L. E.] *Laurus sassafras* Lin. S. P. Wood, root, and its bark: brought to us in long straight pieces, very light, and of a spongy texture, covered with a rough fungous bark; outwardly of an ash-colour, inwardly of the colour of rusty iron. It has a fragrant smell, and a sweetish, aromatic, subacid taste: the bark tastes much stronger than any other part; and the small twigs stronger than the large pieces. As to the virtues of this root, it is a warm aperient, diuretic, diaphoretic, and corroborant; and frequently employed, with success, for purifying and sweetening the blood and juices. For these purposes, infusions made from the rasped root or bark, may be drunk as tea. In some constitutions, these liquors, by their fragrance, are apt, on first taking them, to affect the head: in such cases they may be advantageously freed from their flavour by boiling; a decoction of sassafras, boiled down to the consistence of an extract, proves simply bitterish and subastringent. Hoffman assures us, that he has frequently given this extract to the quantity of a scruple at a time with remarkable success, for strengthening the tone of the viscera in cachexies; as also in the decline of intermittent fevers, and in hypochondriacal spasms. Sassafras yields in distillation an extremely fragrant oil, of a penetrating pungent taste; so ponderous (notwithstanding the lightness of the drug itself) as to sink in water. Rectified spirit extracts the whole taste and smell of sassafras: and elevates nothing in evaporation; hence the spirituous extract proves the most elegant and efficacious preparation, as containing the virtue of the root entire.

It is however now thought to be

of very little importance, and seldom employed but in conjunction with other more efficacious medicines. The only officinal preparation is the essential oil, which may be given from two to ten drops for a dose.

MED. VIRT. *Alterant* — *Aperient* — *Corroborant*.

SATUREIÆ *herba*: *Satureia hortensis* Lin. Summer savoury; the herb.

This herb is raised annually in gardens for culinary purposes. It is a very pungent warm aromatic; and affords, in distillation with water, a subtle essential oil, of a penetrating smell, and very hot, acrid taste. It yields little of its virtues by infusion to aqueous liquors: rectified spirit extracts the whole of its taste and smell, and elevates nothing in distillation.

SATYRII MARIS *radix*: *Orchis masculæ* Lin. Orchis; the root [E.]

This plant is frequent in shady places and moist meadows: each plant has two oval roots, of a whitish colour, a viscid sweetish taste, and a faint unpleasant smell. They abound with a glutinous slimy juice. With regard to their virtues, like other mucilaginous vegetables, they thicken the thin serous humours and defend the solids from their acrimony: they have also been celebrated, though on no very good foundation, for analeptic and aphrodisiac virtues: and frequently made use of in these intentions.

SCAMMONIUM: *Convolvulus Scammonia* Lin. S. P. [L. E.] Scammony; a concrete juice extracted from the roots of a large climbing plant growing in Asiatic Turkey. The best comes from Aleppo, in light, spongy masses, easily friable, of a shining ash colour verging to black; when powdered, of a light grey or whitish colour. An inferior sort is brought

from Smyrna, in more compact, ponderous pieces, of a darker colour, and full of sand and other impurities. This juice is chiefly of the resinous kind: rectified spirit dissolves five ounces out of six, the remainder is a mucilaginous substance mixed with dross: proof spirit totally dissolves it, the impurities only being left. It has a faint unpleasant smell; and a bitterish somewhat acrimonious taste.

Scammony is an *efficacious* and *strong purgative*. Some have condemned it as unsafe, and laid many ill qualities to its charge; the principal of which is, that its operation is uncertain, a full dose proving sometimes ineffectual, whilst at other times a much smaller one occasions dangerous hypercatharses. This difference however is owing entirely to the different circumstances of the patient, and not to any ill quality, or irregularity of operation in the medicine. Where the intestines are lined with an excessive load of mucus, the scammony passes through, without exerting itself upon them; where the natural mucus is deficient, a small dose of this or any other resinous cathartic irritates and inflames. Many have endeavoured to abate the force of this drug, and correct its imaginary virulence, by exposing it to the fume of sulphur, dissolving it in acid juices, and the like: but this could do no more than destroy as it were a part of the medicine, without making any alteration in the rest. Scammony in substance, judiciously managed, stands not in need of any corrector: if triturated with sugar or with almonds, as we have formerly recommended for other resinous purgatives, it becomes sufficiently safe and mild in operation. It may likewise be conveniently dissolved, by trituration, in a strong decoction

of liquorice, and then poured off from the feces. The college of Wirtemberg assures us, that by this treatment it becomes mildly purgative, without being attended with gripes, or other inconveniencies: and that it likewise proves inoffensive to the palate. The common dose of scammony is from three to twelve grains.

MED. VIRT. *Strongly cathartic.*

PREP. *Pulv. e scam. comp. —*

Pulv. e Scamm. comp. c. Aloe — Pulv. e scam. c. Calomel. — Pulv. e fena comp. — Extract. colocynth. comp. — Pilul. e colocynth. cum aloe.

SCILLÆ radix: *Scillæ maritimæ Lin. Sp. P.* The squill, or sea-onion; its root [L. E.]

This is a sort of onion, growing spontaneously upon dry sandy shores in Spain and the Levant, whence the root is annually brought into Europe. It should be chosen *plump, sound, fresh, and full of a clammy juice*. Some have preferred the red sort, others the white, though neither deserves the preference to the other; the only difference perceivable betwixt them, is that of the colour. This root is to the taste very nauseous, intensely bitter and acrimonious: much handled, it exulcerates the skin. With regard to its medical virtues, it *powerfully stimulates the solids, and attenuates viscid juices*, and by these qualities *promotes expectoration, urine, and (if the patient be kept warm) sweat*. If the dose be considerable, it *proves emetic*, and sometimes *purgative*. But should it be frequently repeated, it not only excites nausea, tormina, and violent vomiting; but it has been known to produce strangury, bloody urine, hypercatharsis, cardialgia, hæmorrhoids, convulsions, with fatal inflammation and gangrene of the stomach and bowels. Notwithstanding all which, under proper manage-

ment, in certain cases and constitutions, it may be made a medicine of great practical utility, and of real importance in many obstinate diseases. In *dropical* cases it has long been esteemed one of the most certain and effectual diuretics with which we have been acquainted, and usually employed in *humoral asthma*, as an expectorant. The diuretic effects of squills have been supposed to be promoted by the addition of some mercurial, particularly a solution of corrosive sublimate. As a diuretic the best form is powder, as being less liable to nauseate the stomach; though, perhaps, when slight nausea does attend the exhibition, it has been observed to be most efficacious. From the constant repetition of the squill, the dose may be gradually increased, and the intervals of the exhibition shorter; and if to this opium is added, it will prevent its purgative effect, and determine more freely to the kidneys: and when it takes this course, it will be of use, and generally safe, during the exhibition, to increase the usual quantity of drink.

The principal use of this medicine is where the *primæ viæ* abound with *mu-
cous matter*, and the lungs are oppressed by tenacious phlegm. Dr. Wagner, (in his Clinical Observations) recommends it given along with nitre, in *hydropical swellings*, and in the *nephritis*: and mentions several cures which he performed, by giving from four to ten grains of the powder for a dose, mixed with a double quantity of nitre. He says, that, thus managed, it almost always operates as a diuretic, though sometimes it vomits or purges. The most commodious form for the taking of squills, unless when designed as an emetic, is that of a bolus or pill: liquid forms are to most people too offensive, though these may be rendered less disagree-

able both to the palate and stomach, by the addition of aromatic distilled waters. This root yields the whole of its virtues both to aqueous and vinous menstrua, and likewise to vegetable acids.

MED. VIRT. *Powerfully diuretic*
— *Expectorant* — *Stimulant*.

PREP. Syrup — Oxy-mel — Pills
Conserve — Vinegar.

SCORDII folia. *Tueri Scordii*
Lin. S. P. Water-germander; the leaves [L. E.]

This is a small, somewhat hairy plant, growing wild in some parts of England, though not very common; the shops are generally supplied from gardens. It has a bitter taste, and a strong disagreeable smell. Scordium is of no great esteem in the present practice, notwithstanding the *deobstruent*, *diuretic*, and *sudorific* virtues for which it was formerly celebrated.

MED. VIRT. *Deobstruent* — *Diuretic* — *Sudorific* — but doubtful.

SCORZONERÆ radix: *Scorzonera hispanica* Lin. Viper-grass; the root.

Scorzonera is met with only in gardens. The roots abound with a milky juice, of a bitterish sub-acrid taste; and hence may be of some service, for *strengthening the tone of the viscera*, and *promoting the fluid secretions*. They were formerly celebrated as alexipharmics, and for throwing out the measles and small-pox; but have now almost entirely lost their character.

MED. VIRT. *Cordial* and *stimulant* — but doubtful.

SCROPHULARIÆ VULGARIS Lin. folia, radix. Fig-wort; the leaves and root.

This herb grows wild in woods and hedges: the roots are of a white colour, full of little knobs or protuberances on the surface. This appearance gained it formerly some repute against scrophulous disorders and the piles; and hence

it received its name: but modern practitioners expect no such virtues from it. It has a faint unpleasant smell, and a somewhat disagreeable taste.

SEBESTENA: *Cordia Myxa* Lin.

A sort of plum, brought half-dried from the East-Indies: it is of a dark or blackish brown colour, with whitish or ash-coloured cups; the flesh sticks close to the stone, which contains sometimes one and sometimes two kernels. This fruit has a sweet, very glutinous taste: and hence has been employed for softening acrimonious humours, in some kinds of hoarseness, and in coughs from thin sharp fluxions. At present it is not often met with in the shops.

MED. VIRT. *Emollient.*

SEDI ACRIS Lin. *herba recens.*

Wall-stone-crop, or pepper; the recent plant.

This species of the sedum is a small perennial, succulent, green plant, growing on the tops of walls and roofs of houses. It has a faint smell, and at first an herbaceous taste; but it afterwards shows considerable acrimony, exciting a sense of biting heat in the mouth and fauces. In its recent state it is very active, proving *emetic, purgative, and diuretic*. The expressed juice taken to the quantity of half an ounce has been said to prove a very diuretic medicine; but the plant in its dried state seems to lose all its activity: Though scarcely at all employed in medicine, from the powers it possesses, it appears worthy some attention.

MED. VIRT. *Emetic — Purgative — Diuretic.*

SENNÆ folia: [*L. E.*] *Cassia Senna* Lin. *S. P.* the leaves of a shrubby plant cultivated in Persia, Syria, and Arabia; whence they are brought, dried and picked from the stalks, to Alexandria in Egypt; and thence imported into Europe. They are of an oblong

figure, sharp-pointed at the ends, about a quarter of an inch broad, and not a full inch in length, of a lively yellowish green colour, a faint not very disagreeable smell, and a subacid, bitterish, nauseous taste. Some inferior sorts are brought from Tripoli and other places; *these may easily be distinguished by their being either narrower, longer, and sharper-pointed; or larger, broader, and round-pointed, with small prominent veins; or large and obtuse, of a fresh green colour, without any yellow cast.*

Senna is a very useful *cathartic*, operating mildly, and yet effectually: and, if judiciously dosed and managed, rarely occasioning the ill consequences which too frequently follow the exhibition of the stronger purges. The only inconveniences complained of in this drug are, its being apt to gripe, and its nauseous flavour. The *gripping* quality depends upon a resinous substance, which, like the other bodies of this class, is naturally disposed to adhere to the coats of the intestines: the more this resin is divided by such matters as take off its tenacity, the less adhesive, and consequently the less irritating and gripping it will prove; and the less it is divided, the more gripping. Hence *senna given by itself, or infusions made in a very small quantity of fluid, gripe severely and purge less than when diluted by a large portion of suitable menstruum, or divided by mixing the infusion with oily emulsions.* The smell of senna resides in its more volatile parts, and may be discharged by lightly boiling infusions of it made in water: the liquor thus freed from the peculiar flavour of the senna, may be easily rendered grateful to the taste, by the addition of any proper aromatic tincture or distilled water. If senna is infused in the *infusum amarum*, a less quantity of senna is

necessary for a dose, than when infused in water. Though if one dram of senna be infused in four ounces of water, it rarely occasions any griping, and will be found to answer the purposes of a common cathartic. The taste is well covered by coriander seeds; but cardamoms, ginger, or some of the warmer aromatics, are said to be more effectual.

MED. VIRT. *Cathartic.*

PREP. *Simple Infusion—Tartarised infusion—Tincture—Extract—Electuary—Compound powder.*

SENEKA [L. E.] *Polygala senega* Lin. S. P. Senecka, rattle-snake root; the root of a species of *polygala*, which grows spontaneously in North America, particularly in Pennsylvania, Canada, Virginia, &c. and bears the winters of our own climate. This root is usually about the thickness of the little finger, variously bent and contorted, and appears as if composed of joints, whence it is supposed to resemble the tail of the animal whose name it bears. A kind of membranous margin runs on each side, the whole length of the root, and a longitudinal woody fibre through its centre, as in *ipecacuanha*. *Externally*, it is of a yellowish pale brown colour—*internally*, white. The smell is weak, but nauseous, especially when a large quantity is shut in a close vessel. The taste is warm like white pimpernel, but more acrid, subacid, and slightly bitter.

This root is not at present much known in the shops. The Senegaro Indians are said to prevent the fatal effects which follow from the bite of the rattle-snake, by giving it internally, and applying it externally to the wound. It has of late been strongly recommended in *pleurifies*, *peripneumonies*, and other *inflammatory distempers*; but, at the same time, repeated bleeding, where necessary, is not to be neglected. It has proved useful in *rheumatism*. In

these cases, Lemery, Du Hamel, and Jussieu, experienced its good success. (See the French Memoirs for the years 1738, 1739.) Its more immediate effects are those of a *diuretic*, *diaphoretic*, and *cathartic*; sometimes it proves *emetic*, and *sometimes salivates*. The three last operations may be occasionally prevented, by giving the root in small doses, along with aromatic simple waters, as that of cinnamon.

Some have likewise employed this root in *hydropic cases*, and not without success, Buovart (in the Memoirs before mentioned, 1744) relates examples of its occasioning a plentiful evacuation by stool, urine and perspiration, and by these means removing the disease, after the common diuretics and hydragogues had failed. *Where this medicine operates as a cathartic, it generally proves successful.* Dr. PERCIVAL thinks it sometimes useful in *hydrops pectoris*, as, besides its effects as an evacuant, it *acts on the bronchial glands*. It is given in powder and decoction; in the former mode the dose is from ʒj to ʒss, two or three times a day; or in form of pills, mixed with extract of liquorice. Where vomiting might be unsafe, the decoction is most eligible; one ounce boiled in a pint and a half of water, till reduced to one pint, is sufficient—one ounce and a half of which decoction may be taken every two or three hours. If it acts by liquifying the blood and juices, without occasioning a due discharge, it should either be abstained from, or assisted by proper additions.

MED. VIRT. *Cathartic—Diuretic.*

SERICUM *et folliculi bombycis*. Silk and silkworms' bags. These are scarce ever made use of for any medicinal purposes. In their crude state they are certainly very insignificant: though if burnt in a close

vessel, after the same manner as sponge, they would probably prove a medicine of similar, and perhaps of superior virtue. They yield a larger quantity of volatile salt, than any other animal substance I know.

SERPENTARIA VIRGINIANA [L. E.] *Aristolochia serpentaria* Lin. S. P. Virginian snake-root; the root of a species of aristolochia, growing in Virginia and Carolina.

It is a small, light, bushy root, consisting of a number of strings or fibres, matted together, issuing from one common head; of a brownish colour on the outside, and paler or yellowish within. It has an aromatic smell, like that of valerian, but more agreeable; and a warm, bitterish, pungent taste. This root is a strong stimulant, possessed of tonic, diaphoretic, and antiseptic powers: it has been greatly celebrated as an alexipharmic, and esteemed one of the principal remedies in malignant fevers and epidemic diseases. Many have thought cinchona and wine may in every case supersede the use of serpentaria; but when a mixed state of fever has been observed to prevail, in which the bark has proved hurtful, this root has evidently had a good effect: and even in intermittent fevers, the bark has been found more efficacious when joined with serpentaria, than when given alone. In these intentions, it is given in substance from ten to thirty grains, and in infusion to a dram or two. Both watery and spirituous menstrua extract its virtue by infusion, and elevate some share of its flavour in distillation: along with the water a small portion of essential oil arises.

MED. VIRT. Diaphoretic — Tonic — Antiseptic.

PREP. Tincture.

SERPILLI folia: *Thymi Serpilli*

Lin. Mother of thyme; the herb [E.]

This a small creeping plant, common on heaths and dry pasture grounds. Its taste, smell, and medicinal virtues are similar to those of thyme, but weaker; and it has a milder and rather more grateful flavour. It has been thought that this and other aromatic herbs give a flavour to the flesh of sheep that feed where these plants abound; but it is well known that sheep refuse these aromatics when they have choice of other pasturage.

SIMAROUBA [L. E.] *Quassia Simarouba* Lin. Sp. P. a bark with pieces of the wood adhering to it, brought from Guinea, in long tough pieces, of a pale yellowish colour, light, tough, and flexible, and of a fibrous texture. It has a strong, bitter, durable taste, not very ungrateful, without smell or manifest astringency. The bark of the root is esteemed the best, which is distinguished by the vestiges of the fibres cut off. That which is old, woody, of a dark colour, and but slightly bitter, should be rejected. Its virtues seem more perfectly extracted by cold than boiling water; the cold infusion being rather stronger in taste than the decoction. It has been of great use in an epidemic dysentery, which neither yielded to purgatives nor astringents, and was said to be made worse by ipecacuanha, which raged at Paris in 1718. It has been observed to be successful in epidemic dysentery, but more certain and speedy in fluxes of blood and bloody matter, than when the discharge was bilious. It has also been efficacious in chronic diarrhoeas of several species; in habitual dysenteric colic; in chronic hepatic flux; in lenteria; in leucorrhoea; and for worms. A decoction of half a dram is given for a dose, and repeated at intervals of three or four hours; it is

also given in powder from ℥ss. to ʒss, or more, several times a day. To ensure success, *Simarouba*, like other active medicines, requires some judgment in its exhibition. Under some circumstances, cleansing the primæ viæ with proper evacuants is previously necessary; in others, bleeding, &c. &c.

MED. VIRT. *Antiseptic—Tonic.*

SINAPEOS *Semen: Sinapi nigrum* Lin. S. P. Mustard; the seeds [L. E.]

This plant is sometimes found wild; but for culinary and medicinal uses is cultivated in gardens. Mustard, by its acrimony and pungency, stimulates the solids, and attenuates viscid juices; and hence stands deservedly recommended for exciting appetite, promoting digestion, increasing the fluid secretions; by stimulating the fibres, it proves a general remedy in paralytic and rheumatic affections. If taken in considerable quantity, it opens the body, and increases the urinal discharge; hence found useful in dropical complaints. Half an ounce of unbruised mustard-seed, or as much as an ordinary table-spoon will contain, does not prove heating to the stomach, but stimulates the intestinal canal, and commonly proves laxative. Bergius says, that he found mustard of great efficacy in curing vernal intermittents.—He directed a spoonful of the whole seed to be taken three or four times a-day during the apyrexia; and when the disease was obstinate, he added flour of mustard to the bark. Frequently the powder of mustard-seed is used externally as a stimulant: but though it shews, when fresh, little pungency and much bitterness; when it has been moistened with vinegar for a day, the essential oil is evolved, and it becomes considerably more acrid; a circumstance which should be attended to

when designed for external use; and for the other purposes of the acrid plants called antiscorbutic. It imparts its taste and smell in perfection to aqueous liquors, whilst rectified spirit extracts very little of either: the whole of the pungency arises with water in distillation. Committed to the press, it yields a considerable quantity of a soft insipid oil, perfectly void of acrimony: the cake left after the expression is more pungent than the mustard was at first.

MED. VIRT. *Stimulant—Laxative.*

PREP. *Expressed Oil—Emollient.*

SIUM-NODIFLORUM Lin. S. P.—*herba*. [L.] Water-parsnip; the herb.

It is an indigenous perennial plant, growing in our rivers and ditches, and flowering in July and August. It was formerly considered not only as a diuretic, but also as an emmenagogue and lithontriptic: at present, however, it is not used with any of these intentions; it is now received as an antiscorbutic, or rather as a corrector of acrid humours, especially when manifested by cutaneous eruptions and tumors of the lymphatic system. The juice or decoction of this herb is also used in cases of scrophula. Dr. WITHERING gives an account of a lady, sixty years old, who was cured of an obstinate cutaneous disease by taking ten ounces and a half of this juice twice a-day; to adults he has given three or four ounces every morning repeatedly, in similar complaints, with the greatest advantage. It is not nauseous, as children take it readily if mixed with milk. The doses in which it is given neither affect the stomach nor bowels.

MED. VIRT. *Useful in cutaneous Disorders.*

SOLANI LETHALIS *folia: Atropæ Belladonnæ* Lin. Deadly nightshade; the leaves. [E.]

This plant grows wild in shady waste grounds. It has been supposed cooling and discutient in external applications, and poisonous when taken internally. Late experience has shewn, that an infusion of half a grain or a grain of the dried leaves may be taken with safety, and that in many cases may be increased by degrees to six grains, which is considered a large dose; but this mode of beginning with a small quantity, and increasing it by degrees, is the safest mode of exhibiting it; that they generally occasion some considerable evacuation, and sometimes, especially in the larger of the above doses, alarming nervous symptoms, which however cease with the operation of the medicine. The leaves of belladonna were first used externally to discuss *cancerous* and *scirrhus tumors*; and also as an *application to ill-conditioned ulcers*. From their success in this way, physicians were induced to try them internally for the same disorders; and though in many cases they were successful, yet a variety have occurred where the belladonna was tried without advantage; yet from Dr. Cullen we have some facts adduced in confirmation of the utility of this plant. He has had a cancer of the lip entirely cured by it; a schirrosity of a woman's breast, which frequently proceeds to cancer, entirely dissolved by it:—a sore, a little below the eye, which had put on a cancerous appearance, was much mended by its use; but, from the timidity of the patient, she desisted from it too soon—the sore grew worse; but, upon returning to it again, received benefit—she again left off its use, and the same consequences of the sore's growing worse occurred. These afford certain proofs of its efficacy. The sensible effects produced by the internal use of this plant, taken

in proper doses, are *usually by the skin, urinary passages, and sometimes by stool*.—In larger doses, troublesome dryness in the mouth and throat, giddiness and dimness of sight are experienced.

The root seems to partake of the same quality as the leaves, but is less virulent. With respect to the berries, so successfully employed as an anodyne by Gesner and others, a small spoonful of a syrup of the juice was the dose given. Besides the complaints above recited, it has been said also to be employed with success in some cases of *melancholia, mania, and epilepsy*.

MED. VIRT. *Powerfully evacuant.*

SPERMA CETI [L. E.] *Serum ceti crystallisatum*: An unctuous flaky substance, of a snowy whiteness, a soft butyraceous taste, without any remarkable smell; said to be prepared from the fat of the brain of the whale, by boiling and purifying it with alkaline lixivium. The virtues of this concrete are those of a mild emollient: it is of considerable use in *pains and erosions of the intestines*, in *coughs proceeding from thin sharp defluxions*, and, in general, in *all cases where the solids require to be relaxed*, or *acrimonious humours to be softened*. For external purposes, it readily dissolves in oils; and, for internal ones, may be united with aqueous liquors into the form of an emulsion, by the mediation of almonds, gums, or yolk of an egg. Sugar does not render it perfectly miscible with water; and alkalies, which change other oils and fats into soap, have little effect upon sperma ceti. This drug ought to be kept very closely from the air, otherwise its white colour soon changes into a yellow; and its mild unctuous taste, into a rancid and offensive one. After it has suffered this disagreeable alteration, both the colour and quality

may be recovered again by steeping it in alkaline liquors, or in a sufficient quantity of spirit of wine.

MED. VIRT. *Emollient.*

SPIGELIA [*L. E.*] *Spigelia marilandica* Lin. Indian Pink: this plant has a perennial fibrous root, whence arise single stems, beset with opposite oval-lanceolate, entire leaves, and crowned with a spike of tubular monopetalous red flowers, with five stamina and one pistil. Each flower is succeeded by two round united bivalvular capsules, containing several small seeds. It grows spontaneously in South Carolina, and other southern provinces of North America.

The use of the root of this plant as an anthelmintic, was communicated from the native Indians to the colonists; and it has since been much employed in that country. The first account of its virtues is to be met with in a paper of Dr. LINNÆ's, Vol. I. of the *Essays Physical and Literary*; and Dr. GARDEN has confirmed it in Vol. III. of the same publication, and has given a figure and particular description of the plant.

The root is given both in powder and infusion; but the powder is esteemed most efficacious. The dose is not accurately ascertained, but extends to from twelve to sixty or seventy grains of the powder; in infusion it may be given to the quantity of two, three, or four drams, twice a day. It is found to be most efficacious when it purges, which it does not always without some additions. The exhibition of a vomit previous to the use of the Indian pink has proved very serviceable. It sometimes produces disagreeable effects on the nervous system, such as giddiness, dimness of the sight, and convulsive motions of the muscles of the eye. It is said to act

powerfully as a sedative in abating the exacerbations of low remittent worm-fevers.

It does not lose much of its power by keeping, and appears to be most efficacious, and pleasanter in its effects, when given in full than when administered in small doses: "For, from the latter," says GARDEN, "giddiness, dimness of sight, convulsions, &c. more frequently follow than from the former; for, from large doses, he has not known any other effect than its proving emetic and violently cathartic. Should it through produce no effect upon the belly, it is proper to add a grain or two of calomel, or a few grains of rhubarb, to assist its operation; but he observed that the same happy effect of evacuating worms did not follow its use as when it was purgative without addition."

MED. VIRT. *Anthelmintic.*

SPINÆ CERVINÆ *bacca*: *Rhamni cathartici* Lin. *S. P.* Buckthorn; the berries [*L. E.*]

This tree, or bush, is common in hedges: it flowers in June, and ripens its fruit in September, or the beginning of October. In our markets, the fruit of some other trees, as the *frangula* or black berry-bearing alder, and the *cornus fœmina* or dogberry-tree, have of late years been frequently mixed with, or substituted for, those of buckthorn. *This abuse may be discovered by opening the berries*: those of buckthorn have almost always four seeds, the berries of the *frangula* two, and those of the *cornus fœmina* only one. Buckthorn berries, bruised on white paper, give it a green tincture, which the others do not. Those who sell the juice to the apothecaries, are said to mix with it a large proportion of water.

Buckthorn berries have a faint disagreeable smell, and a nauseous

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bitter taste. They have long been in considerable esteem as *catartics*; and celebrated in *dropfies*, *rheumatisms*, and even in the *gout*; though in these cases they have no advantage over other purgatives, and are more offensive, and operate more churlishly, than many with which the shops are furnished; they generally occasion gripes, sickness, dry the mouth and throat, and leave a thirst of long duration. The dose is about twenty of the fresh berries in substance, and twice or thrice this number in decoction, a dram of the dried berries, an ounce of the expressed juice, or half an ounce of the inspissated juice or rob. But a syrup has been chiefly employed by the physicians who have been in the practice of employing it; who have found, that, in doses of from one ounce to two, it has proved a very powerful purgative, and have therefore prescribed it as an *hydragogue*. In this preparation, the nauseous flavour of the buckthorn is somewhat alleviated by the sugar, and the addition of aromatics.

MED. VIRT. *Strongly cathartic.*

PREP. *Syrup.*

SPIRITUS VINOSUS RECTIFICATUS. [E. L.] Rectified spirit of wine; "a spirit distilled from wine or other fermented liquors, purified as much as possible from its fetid smell, and the phlegm that arises with it in the first distillation." 100 parts contain 95 parts alcohol, and 5 parts of distilled water. Its specific gravity to that of distilled water is .835 to 1,000. This purification is effected, by repeating the distillation in a very gentle heat, with certain additions, to keep down the phlegm and the gross oil in which the ill flavour resides. These spirits, from whatever vegetable subjects they have been produced, are, when perfectly pure, the same.

They have a hot pungent taste, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous moisture behind; distilled by a heat less than that of boiling water, they totally arise, the last runnings proving as flavourless and inflammable as the first: They dissolve essential vegetable oils and resins into an uniform transparent fluid. These spirits are the lightest of almost all known liquors: expressed oils, which swim upon water, sink in these to the bottom; a measure which contains ten ounces by weight of water, will hold little more than eight and a quarter of pure spirit.

The uses of vinous spirits, as menstrua for the virtues of other medicines, we shall see hereafter, and in this place consider only their own. Pure spirit *coagulates all the fluids of animal bodies*, except urine, and *hardens the solid parts*. Applied externally, it *strengthens the vessels, thickens the juices in them*, and thus *powerfully restrains hæmorrhages*. It *instantly contracts the extremities of the nerves it touches*, and *deprives them of sense and motion*; by these means easing them of pain, but at the same time destroying their use. Hence employing spirituous liquors in fomentations (notwithstanding the specious titles of vivifying, heating, restoring mobility, resolving, dissipating, and the like, usually attributed to them) may sometimes be attended with unhappy consequences. These liquors, received undiluted into the stomach, *produce the same effects*, thickening the fluid, and contracting all the solid parts which they touch, and destroying, at least for a time, their use and office: *if the quantity be considerable, a palsy or apoplexy follows, which ends in death*. Taken in small quantity, and duly diluted,

they brace up the fibres, raise the spirits, and promote agility: if further continued, the senses are disordered, voluntary motion destroyed, and at length the same inconveniences brought on as before. Vinous spirits therefore, in small doses, and properly diluted, may be applied to useful purposes in the cure of diseases; whilst in larger ones, or if their use be long continued, they act as a poison of a particular kind.

MED. VIRT. *Cordial—Stimulant.*

SPIRITUS VINOSUS TENUIOR. Proof spirit: [*L. E.*] "the same spirit, containing an admixture of an equal quantity of water: the best proof spirit is that distilled from French wine; but for common uses may be employed the spirit drawn from melasses or the syrupy matter that runs from sugar in the purification, commonly called melasses spirit." 100 parts of this contain 55 parts of alcohol, and 45 parts of distilled water. Its specific gravity is to that of distilled water as 930 to 1,000. The spirits usually met with under the name of proof, are those distilled from different fermented liquors, freed from their phlegm and ill flavour only to a certain degree. Their purity with regard to flavour may be easily judged from the taste, especially if the spirit be first duly diluted. It were to be wished, that we had a certain standard with regard to their strength, or the quantity of water contained in them; a circumstance which greatly influences sundry medicinal preparations, particularly the tinctures: for, as pure spirit dissolves the resin and volatile oil, and water only the gummy and saline parts of vegetables, it is evident that a variation in the proportions wherein these are mixed, will vary the dissolving power of the menstruum, and consequently the virtue

of the preparation. The common methods of estimating the quantity of phlegm contained in these spirits, are liable to uncertainty: it should therefore seem necessary for the nicer purposes, and where a perfectly flavourless proof spirit is required, to make use of the pure rectified spirit, mixed with a certain determined proportion of water: equal quantities of these liquors, whether taken by weight or measure, compose a spirit somewhat weaker than what has been generally looked upon as proof: the exact proportions are, one hundred parts by weight of pure spirit, and eighty-six of water.

MED. VIRT. *Cordial—Stimulant.*

SPONGIA [*L. E.*]: *Spongia officinalis* Lin. *S. N.* Sponge; a soft, light, very porous and compressible substance, readily imbibing water, and distending thereby. It is found adhering to rocks, particularly in the Mediterranean sea, about the islands of the Archipelago. It is generally supposed to be a vegetable production: nevertheless some observations, lately made by Jussieu, give room to suspect that it is of animal origin. Chemical experiments favour this supposition; analysed, it yields the same principles with animal substances in general: the volatile salt is in larger quantity than I have obtained from any animal matter, except the bags of the silk-worm. On this salt, generated by fire, which is just formed, and combined with its own oil and an earthy matter, seem to depend the virtues of the officinal *spongia usta*. It is given in *scrophulous* and *cutaneous disorders*, particularly in the *bronchocoele*, by placing half a dram of it, mixed up with a sufficient quantity of honey, under the tongue, and gradually swallowing it for six successive nights, administering a purge every eighth

day; but it may be more conveniently given in form of lozenges in all such cases. It is also ordered in form of powder and infusion, as an absorbent against acidities in the *primæ viæ*. It should never be rubbed in a brass mortar, because it is apt to acquire an emetic quality from its salt eroding the metal. Its dose is from 20 to 40 grains, or more, twice a day, joined with two or three grains of powdered rhubarb—to an infant from 5 to 8 grains, with one of rhubarb.

Crude sponge, from its property of imbibing and distending by moisture, is sometimes made use of as a tent for dilating wounds and ulcers. In order to fit it for these purposes, the sponge should be immersed in melted wax, and kept under pressure till cool, and then it may be easily formed into tents, so as to be introduced where necessary. And from the gradual melting of the wax in consequence of the heat of the part, a dilatation takes place of course.

Sponge adheres strongly to the mouths of wounded vessels; and when retained by proper compression, it has prevented considerable bleedings, preferably to agaric, or puff-ball.

MED. VIRT. *Attenuant*, internally — Externally, *astringent*.

STANNUM [L. E.] Tin is the lightest and easiest of fusion of all the metals. Heated, it becomes so brittle as to fall in pieces by a blow; and by agitation (when just ready to melt) into a powder: hence the officinal method of pulverising this metal, to be described in its place. The proper menstruum of tin is the marine acid, or aqua regis; vegetable acids likewise dissolve it in considerable quantity, though it has long been supposed not to be at all soluble in them, unless previously well calcined.

With regard to the virtues of

this metal, it was formerly accounted a specific in disorders of the uterus and lungs; a calx of tin and antimony is still retained in some dispensatories, under the name of an antihæstic: but these are virtues, to which it certainly has little claim. It has of late been celebrated, on better foundation, as an antihelminthic; and said to destroy some kinds of worms which elude the force of many other medicines. Possibly the cause of this effect may be very different from what may be suspected, an admixture of a portion of arsenic.

Tin has a strong affinity with arsenic: insomuch that when once united therewith, the arsenic, notwithstanding its volatility in other circumstances, cannot be totally expelled either by slow calcination, or by a vehement fire. Almost all the ores of tin contain more or less of this poisonous mineral, which is not entirely separable in the common processes by which the ores are run down, or the metal further purified. Filings of tin held in the flame of a candle, emit a thick fume, smelling of garlic; which smell is universally held, in mineral substances, to be a certain criterion of arsenic. HENCKEL has discovered a method of separating actual arsenic from tin; this is effected by solution in aqua regia and crystallization: Mr. Margraff has (in a volume of the Berlin Memoirs) given a farther account of this process; and relates, that, from the tins usually reputed pure, he has obtained one eighth their weight of crystals of arsenic. Much has been said against its medical use, on account of its affinity with arsenic: but in form of powder, or filings, it has been repeatedly administered in large doses of from ʒss to an ounce, particularly against the *tænia* or tape-worm; which proves that either the quantity of

arsenic contained therein is too insignificant, or that it is too intimately combined therewith, to do any great harm. To children it is commonly given two or three times a-day, mixed with treacle, in doses of from 10 to 40 grains; and to adults, from 1 to 2 or 3 drams or more.

MED. VIRT. *Antelmintic.*

PREP. *Powder or Filings.*

STAPHISAGRIÆ *semen*: *Delphinii Staphisagriæ Lin. S. P. Stavesacre*; the seeds. [L. E.]

These are large rough seeds, of an irregularly triangular figure, of a blackish colour on the outside, and yellowish or whitish within. They are usually brought from Italy; the plant is not very common in this country, though it bears our severest colds. They have a disagreeable smell, and a very nauseous, bitterish, burning taste. Stavesacre was employed by the ancients as a cathartic; but it operates with so much violence both upwards and downwards, and is so liable to inflame the throats, that its internal use has been, among the generality of practitioners, for some time laid aside. It is chiefly employed, in external applications, for some kinds of cutaneous eruptions, and for destroying lice and other insects; insomuch that it has from this virtue received its name, in different languages; *herba pedicularis* — *herbe aux poux* — *lauskraut* — *lousewort*.

MED. VIRT. *Violently cathartic*, taken internally — externally, *destructive to lice and other insects*.

STÆCHAS: *Lavendula Stæchas Lin. Arabian stæchas*, or French lavender flowers.

This is a shrubby plant, considerably smaller than the common lavender: the flowery heads are brought from Italy and the southern parts of France. They are very apt to grow mouldy in the passage, and, even when they escape this

inconvenience, are generally much inferior to those raised in our gardens. The best stæchas which we receive from abroad, has no great smell or taste. POMET affirms, that such as the shops of Paris are supplied with, is entirely destitute of both; whilst that of our own growth, either whilst fresh, or when carefully dried, has a very fragrant smell, and a warm, aromatic, bitterish, subacid taste; distilled with water, it yields a considerable quantity of a fragrant essential oil; to rectified spirit it imparts a strong tincture, which inspissated proves an elegant aromatic extract. This aromatic plant is rarely met with in prescription.

There is another plant called stæchas, which from the beauty and durability of its flowers has of late years had a place in our gardens, and whose aromatic qualities render it worthy of one in the shops; this is the *gnaphalium arenarium Lin.* Golden stæchas, goldilocks, or yellow cassidony: its flowers stand in umbels on the tops of the branches; they are of a deep shining yellow colour, which they retain in perfection for many years; their smell is fragrant and agreeable, somewhat of the musky kind; their taste warm, pungent, and sub-astringent; they impart their flavour to water in distillation, and by infusion to rectified spirit.

MED. VIRT. *Aromatic.*

STRAMONIUM [E.] *Datura Stramonium Lin.* Thorn-Apple; an herbaceous plant, with a thick branched stalk, two or three feet high, large sinuated leaves, and long tubular white or purplish flowers, succeeded by large prickly, green, fleshy seed-vessels, which open at the end in four divisions, and disclose numerous black seeds. It flowers in July. It grows indigenous in some parts of Britain, amongst rubbish and dunghills.

This plant, which has been long known as a narcotic poison, has been introduced into the catalogue of medicines by Dr. Stœrck. An extract made from the expressed juice of the leaves is acrid and saline to the taste, and yields chrysals of nitre on standing. This preparation, given in doses of from one to five grains twice or thrice a day, is said to be a very powerful remedy in *various convulsive and spasmodic disorders, epilepsy and mania*. The accounts of other practitioners have confirmed it; and it has been received into some pharmacopœias. The powder of the leaves, or the seeds, promises to furnish a more certain and convenient formula than the extract. An ointment prepared from the leaves has been found to give ease in external inflammation and hæmorrhoids.

Much as has been said of the efficacy of this plant by STœRCK, and other foreign physicians; in Britain we have not heard of its success being equal to their report; Dr. CULLEN considers the stramonium as possessing narcotic powers, but has had no practical experience to fix his opinion on the subject; and indeed it has been with us so little employed, that the college of physicians of London have given it no place in their pharmacopœia. But from its very active powers it merits attention, particularly in desperate cases, where all other means have been tried in vain.

MED. VIRT. *Narcotic.*

PREP. *Inspissated Juice.*

STYRAX CALAMITA, *Styrax officinalis* Lin. S. P. Storax in the cane. Storax; an odoriferous resinous substance, exuding, in the warmer climates, from a tree called *Styrax mali cotonei folio*. It has been customary to distinguish three sorts of storax, though only one is usually met with in the shops.

1. *Styrax calamita*, or storax in

the cane, so called from its having been formerly brought inclosed in reeds from Pamphylia. It is either in small distinct tears, of a whitish or reddish colour, or in larger masses composed of such.

2. *Storax in the lump*, or red storax. This is in masses of a uniform texture and yellowish red or brownish colour, though sometimes likewise interspersed with a few whitish grains. Of this sort there has been some to be met with in the shops, under the name of storax in the tear.

3. The common storax of the shops is in large masses, considerably lighter and less compact than the foregoing. It appears upon examination to be composed of a fine resinous juice, mixed with a quantity of saw-dust. For what purpose this addition is made, I shall not here inquire; observing only, that it can scarcely be supposed to be done with any fraudulent view, since the saw-dust appears at sight. This common storax is much less esteemed than the two first sorts, though, when freed from the woody matter, it proves superior in point of fragrancy to either of them. Rectified spirit, the common menstruum of resins, dissolves the storax, leaving the wood behind: nor does this tincture lose much of its valuable parts, in being inspissated to a solid consistence; whilst aqueous liquors elevate almost all the fragrancy of the storax.

Storax is one of the most agreeable of the odoriferous resins, and may be exhibited to great advantage in languors and debilities of the nervous syst. m. This was with some of the ancients a familiar remedy as a *resolvent*; and particularly used in catarrhal complaints, coughs, asthma, menstrual obstructions, &c. and, from its affinity to the balsams, was used in ulcerations of the lungs, and other states of pulmonary cor-

sumption; but in the present practice it is totally disregarded.

MED. VIRT. *Aromatic — Stimulant — Nervine.*

STYRAX LIQUIDA: *Liquidambaria Styraciflua* Lin. Liquid storax. What is most commonly met with under this name, is a soft resinous substance, of a grey colour, a weak smell, similar to that of the foregoing solid storax. It is supposed to be compounded of solid storax, resin, wine, and oil, beaten up together into a proper consistence. The genuine liquid storax, according to Petiver's account (*Phil. Transact.* No. 313.), is obtained from a tree growing in the island of Cobros in the Red Sea. The preparers of this commodity yearly clear off the bark of the tree, and boil it in sea-water to the consistence of bird-lime; the resinous matter which floats upon the surface, is taken off, liquified again in boiling water, and passed through a strainer. The purer part which passes through, and the more impure which remains on the strainer, and contains a considerable portion of the substance of the bark, are both sent to Moco, whence they are sometimes, though very rarely, brought to us. The former is of the consistence of honey, tenacious, of a reddish or ash brown colour, an acrid unctuous taste, approaching in smell to the solid storax, but so strong as to be disagreeable: the other is full of woody matter, and much weaker in smell.

Liquid storax is among us scarce ever made use of in medicine, and not often found in the shops; for we have no observations on its real virtues. Therefore it has become totally neglected.

SUCCINUM [*L. E.*] Amber; a solid, brittle, bituminous substance, dug out of the earth, or found upon the sea-shores. The

largest quantities are met with along the coasts of Polish Prussia and Pomerania. It is of a white, yellow, or brown colour, sometimes opaque, and sometimes very clear and transparent: the dark-coloured and opaque sorts, by digestion with certain expressed oils and animal fats, become clearer, paler-coloured, more pellucid, and considerably harder. Amber boiled in water, neither softens nor undergoes any sensible alteration: exposed to a greater heat, without addition, it melts into a black mass like some of the more common bitumens: set on fire, its smell resembles that which arises from the finer kinds of pit-coal: distilled in a retort, it yields an oil and a volatile acidulous salt.

Amber in substance has very little smell or taste; and hence it has by some been reckoned a mere inactive earthy body. It was formerly accounted *an absorbent*, and as such had a place in the compound powder of crabs-claws. It certainly has no title to this class of medicines, as not being acted upon by any acid. It is supposed to be of service in the *fluor albus*, *gleets*, *hysterical affections*, &c. and in these intentions is sometimes given in the form of impalpable powder, to the quantity of a dram. A tincture of amber made in rectified spirit (to which it imparts a bitterish aromatic taste, and a fragrant smell) promises to be of real service in these disorders: Boerhaave extols this tincture as having incredible efficacy in all those distempers which proceed from weakness and relaxation, and in hypochondriacal, hysterical, and cold languid cases. If part of the spirit be abstracted by a gentle heat, the remainder proves a very elegant aromatic balsam, which is perhaps one of the most useful preparations obtainable from this concrete.

Amber in a state of powder is now scarce ever prescribed, as it is considered an inert substance in this form; but by distillation two substances are produced, which are found to be active: these are the oil, and salt; of which an account will be found under their specific titles, in the third part of this work.

SULPHUR: *Sulphuris flores:* Sulphur sublimed [L. E.] Sulphur or brimstone is a yellow substance, of the mineral kingdom, fusible in a small degree of heat, totally volatile in a stronger, readily inflammable, burning with a blue flame, which is accompanied with a suffocating acid fume. It dissolves in alkaline liquors and in oils, not in acids, water, or vinous spirits.

Greatest part of the sulphur met with in the shops, is obtained from certain ores by a kind of distillation, or artificially composed by uniting the vitriolic acid with inflammable matters. At some of the Saxon sulphur-works (whence we are chiefly supplied) certain minerals abounding with vitriolic acid, but containing little or no sulphur, being stratified with wood, and the latter set on fire, a large quantity of fine sulphur is produced. It is usually brought to us in large irregular masses, which are afterwards melted and cast into cylindrical rolls, with the addition of some coarse resin, flour, or the like; whence the paler colour of the rolls. Sulphur is not also unfrequently found native in the earth, sometimes in transparent pieces of a greenish or bright yellow colour; but more commonly in opaque grey ones, with only some streaks of yellow. This last is the sort which is understood by the name **SULPHUR VIVUM** [E.] though that met with under this name in the shops is no other than the dross remaining after the sub-

limation of sulphur. All the sorts of sulphur are, when perfectly pure, in no respect different from one another: notwithstanding the preference given by some to the more uncommon fossil sorts, these last are of all others the least proper for medicinal purposes, as being the most subject to an admixture of foreign matter, both of the metallic and arsenical kind.

Pure sulphur *loosens the belly, and promotes insensible perspiration: it seems to pass through the whole habit, and manifestly transpires through the pores of the skin,* as appears from the sulphureous smell of persons who have taken it, and silver being stained in their pockets of a blackish colour, which is the known effect of sulphureous fumes. It is a celebrated remedy against cutaneous diseases, both given internally, and externally applied. It has likewise been recommended in coughs, asthma, and other disorders of the breast and lungs, and particularly in catarrhs of the chronic kind. But probably the benefit derived from its use is owing to its laxative and diaphoretic powers. It is on these accounts, particularly its laxative power, frequently used with great advantage in the piles, and many other diseases where it is necessary to avoid costiveness.

Though sulphur is not soluble in cold water; boiling water poured upon it, and kept in a close vessel, obtains some impregnation, sufficient to render it an effectual remedy for preventing returns of the gout and rheumatism, according to the accounts of some writers. Sulphur is never used internally in its crude state. The *sulphur vivum* is advantageously used against the itch, in form of ointment. When it is given internally, it is either after it is sublimed, or precipitated; for accounts of which see **FLORES SULPHURIS**, and **SULPHUR PRÆCIPITA-**

tum, in the third part of this Work. The common dose of sulphur rarely exceeds a scruple, though Geofroy goes as far as two drams. Some have imagined that sulphur used externally is dangerous; that, as it throws the morbid matter outwards, when given inwardly, it must in like manner drive it into the blood, when applied externally. This opinion, which is supported by some late writers, has no just foundation. Sulphur has nearly the same effects, whether used internally or externally. In both cases, the eruptions become frequently more copious after the first use of it.

It is remarkable of this concrete, that, though itself a medicine of considerable efficacy, it nevertheless restrains that of some others of the most powerful kind. *Mercury is rendered, by the admixture of sulphur, inactive: and the virulent antimonial regulus, almost so.* Hence, when antimonial and mercurial medicines exceed in operation, sulphur has been given for abating their violence; and sometimes restrains their farther action. Even the corrosive poison arsenic becomes, by the addition of sulphur, almost innocent; and hence if a small proportion of arsenic should be contained in sulphur, it possibly may not receive thence any poisonous qualities.

MED. VIRT. *Laxative—Diaphoretic—Alterant.*

PREP. *Flores Sulph.—Flores Sulph. loti—Sulph. præcipitatum—Oleum sulphuratum.*

TACAMAHACA *resina: Populus balsamifera* Lin. Tacamahaca tree; the resin. This tree grows spontaneously on the continent of America, and in a sheltered situation bears the winters of our own climate. Two sorts of this resin are sometimes to be met with. The

best, called (from its being collected in a kind of gourd-shells) *tacamahaca* in shells, is somewhat unctuous and softish, of a pale yellowish or greenish colour, an aromatic taste, and a fragrant delightful smell, approaching to that of lavender and ambergris. This sort is very rare: that commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish, or greenish colour, of a less grateful smell than the foregoing. The former is said to exude from the fruit of the tree, the other from incisions made in the trunk. This resin is said to be employed among the Indians, externally, for *discussing and maturating tumours, and abating pains and aches of the limbs.*

From the fragrance of the finer sort, it may probably be applicable to different purposes; but at present it is little used, except as an ingredient in some of the warming plaisters.

MED. VIRT. *Discutient—Emollient—Suppurative.*

TAMARINDUS [L. E.] *Tamarindus Indica* Lin. S. P. *fructus.* Tamarind; the fruit of a tree growing in the East and West Indies. It is a pod resembling a bean-cod, including several hard seeds, together with a dark-coloured viscid pulp of a pleasant acid taste: the East-India tamarinds are longer than the West-India sort; the former containing six or seven seeds each, the latter rarely above three or four. The pulp of these fruits, taken in the quantity of two or three drams, or an ounce or more, *proves gently laxative or purgative; and at the same time, by its acidity, quenches thirst, and allays immoderate heat, in various inflammatory complaints, and is a corrective of putrid acrimony; and useful in those disorders of the bilious kind, in which the cathartic, antiseptic,*

and refrigerant qualities of the fruit have been found advantageous. It increases the action of the purgative sweets, casia and manna, and weakens that of the resinous cathartics. Some have supposed it capable of abating the virulence of antimonial preparations; but experience shews, that it has rather a contrary effect, and that all vegetable acids augment their power.

MED. VIRT. Refrigerant—Laxative.

TANACETI folia, flores: *Tanacetum vulgare* Lin. S. P. Tansey; the leaves and flowers [L. E.]

Tansey grows wild by road-sides, and the borders of fields, and is frequently also cultivated in gardens, both for culinary and medicinal uses: it flowers in June and July. Considered as a medicine, it is a moderately warm bitter, accompanied with a strong, not very disagreeable flavour. Some have had a great opinion of it in hysterical disorders, particularly those proceeding from a deficiency or suppression of the uterine purgations. The leaves and seeds have been of considerable esteem as anthelmintics; the seeds are less bitter, and more acrid and aromatic than those of rue, to which they are reckoned similar; or of santonicum, for which they have been frequently substituted.

The virtues of tansey, according to BERGIUS, are tonic, stomachic, anthelmintic, emmenagogue, and solvent. Dr. CLARK, in Scotland, found it to be great service in various cases of the gout. And Dr. CULLEN says, that he had known several, who had taken it without any advantage in the gout, and some others who reported that they had been relieved from the frequency of the gout.

This plant is given in doses of half a dram or more for a dose, but it has been more commonly

taken in infusion, and drunk as tea.

MED. VIRT. Stimulant — Anti-spasmodic — Anthelmintic.

PREP. Oleum essentielle.

THAPSI BARBATI folia: flores. *Verbascum Thapsus* Lin. S. V. [E.] Mullein; the leaves and flowers.

This is met with by road-sides, and under hedges: it is clothed all over with soft downy leaves, and produces long spikes of yellow flowers in July. The taste discovers in it a glutinous quality; and hence it stands recommended as an emollient, and is in some places held in great esteem in consumptions. Others have recommended it as strongly in dysenteric affections. It has sometimes, though rarely, been employed externally in ill-conditioned ulcers, Catarrhal coughs, and diarrhæa, however are the complaints for which the mullein has been internally prescribed. Dr. HOME tried them in both, but it was only in the latter that it succeeded. From the cases in which he tried it, he concludes, that it is useful in stopping or diminishing diarrhæas of an old standing; and often in easing the pains of the intestines. They acquire a degree of irritability, and the ordinary irritating causes, aliment, bile, distension from air, keeps up a quicker peristaltic motion, which is obviated by the emollient, and perhaps gently astringent, qualities of this plant. The decoction was prepared of two ounces of the leaves with ℥2 of water.

The flowers of mullein have an agreeable, honey-like sweetness; an extract prepared from them by rectified spirit of wine tastes extremely pleasant.

MED. VIRT. Emollient.

TARTARUM [L. E.] Tartar is a saline substance, consisting of a vegetable alkali supersaturated with acids and is thrown off from

wines, after fermentation, to the sides and bottom of the cask. It proves of a red or white colour, and more or less foul or drossy, according to the colour and quality of the wine; the white is generally looked upon as the purest: of either sort, such as is clean, solid, somewhat transparent, and has its outside covered over with small shining crystals, is preferable to such as appears porous, drossy, opaque, and less bright. The virtues of tartar are those of a mild, cooling, aperient, laxative medicine. Taken from half an ounce to an ounce, it proves a gentle, though effectual, purgative. Angelus Sala relates, that he was cured of an habitual colic, by purging himself a few times with six drams of the crude salt, after many other medicines had been tried to no purpose. It is purified by dissolving it in boiling water, and separating the earthy part by filtering the solution. On cooling it deposits irregular crystals, containing the colouring matter, which is separated by boiling the mass with white clay.

The tartar thus purified is called *cream of tartar*. If this be exposed to a red heat, its acid flies off, and what remains is the vegetable alkali, or salt of tartar.

The cream or crystals of tartar are in common use, as a *laxative*, and *mild cathartic*; they are also considered as *cooling*, and *diuretic*, and therefore have been much employed in dropxies, and other cases requiring the antiphlogistic treatment. In large doses, Dr. Cullen says, they act like a purgative in exciting the action of the absorbents in every part of the system, and that more powerfully than happens from the operation of any entirely neutral salt; and hence their use in the cure of dropxy. They ought to be given in a

liquid form, dissolved in water, of which will be required twenty times the quantity of cold water to one of the crystals. The dose is from one dram to two ounces, according to circumstances, and should generally be regulated by the effects on the body. If one ounce is to be given in the day, half should be given in the morning and half in the evening. Its effects are generally visible in two or three weeks; if not, few can be persuaded to try it longer.

MED. VIRT. *Aperient—Diuretic—Refrigerant.*

TEREBINTHINÆ. Turpentine; resinous juices extracted from certain trees. There are four kinds of turpentine distinguished in the shops.

TEREBINTHINA CHIA *Pistachia Terebinthus* Lin. S. P. Chio, or Cyprus turpentine.

This is generally about the consistency of thick honey, very tenacious, clear and almost transparent, of a white colour, with a cast of yellow, and frequently of blue. It has a warm, pungent, bitterish taste; and a fragrant smell, more agreeable than any of the other turpentine.

This juice is the produce of an evergreen tree or shrub, which grows spontaneously in the warmer climates, and endures the colds of our own. The turpentine brought to us, is extracted in the islands whose names it bears, by wounding the trunk and branches a little after the buds have come forth. The juice issues limpid, and clear as water, and by degrees thickens into the consistency in which we meet with it. A like juice exuding from this tree in the eastern countries, inspissated by a slow fire, is of frequent use, as a *masticatory*, among the Persian ladies, who (as Kæmpfer informs us) are continu-

ally chewing it, in order to *fasten and whiten the teeth, sweeten the breath, and promote appetite.*

TEREBINTHINA VENETA

[E.] Venice turpentine.

This is usually thinner than any of the other sorts, of a clear, whitish, or pale yellowish colour, a hot, pungent, bitterish, disagreeable taste, and a strong smell, without any thing of the fine aromatic flavour of the Chian kind.

The true Venice turpentine is obtained from a large tree growing in great abundance upon the Alps and Pyrenean mountains, and not uncommon in the English gardens. What is usually met with in the shops, under the name of Venice turpentine, comes from New England. Of what tree it is the produce, we have no certain account: the finer kinds of it are in appearance and quality not considerably different from the true sort above described.

TEREBINTHINA ARGENTORATENSIS. Straßburgh turpentine.

This, as we generally meet with it, is of a middle consistence betwixt the two foregoing, more transparent and less tenacious than either; its colour a yellowish brown. Its smell is very fragrant, and more agreeable than that of any of the other turpentine, except the Chian; in taste it is the bitterest, yet the least acrid.

This resin is obtained from the two sorts of fir-trees, which are the most plentiful, and perhaps the only ones that grow spontaneously in Europe. There is another whose resin is much superior to the common turpentine, and has sometimes been brought to us from abroad under the name of **BALSAMUM CANADENSE**. This species is the *Abies minor, pectinatis foliis, Virginiana conis parvis subrotundis Pluk.* Vir-

ginian or Canada fir-tree; which, though not a native of this climate, has been found to endure its severest colds.

This balsam is a transparent resinous juice, of a light amber colour, and pretty firm consistence. It may be considered as one of the purest of the turpentine, has a very agreeable smell, and a warm pungent taste. It is considered by some as capable of supplying the place of the balsamum copaiva; but that will require some time to determine.

TEREBINTHINA COMMUNIS [L.] Common turpentine is the coarsest, and heaviest, in taste and smell the most disagreeable, of all the sorts: it is about the consistence of honey, of an opaque brownish white colour.

This is obtained from the wild pine, a low unhandsome tree, common in different parts of Europe; this tree is extremely resinous, and remarkably subject to a disease from a redundancy and extravasation of its resin, inasmuch that, without due evacuation, it swells and bursts. The juice as it issues from the tree is received in trenches made in the earth, and afterwards freed from the grosser impurities by colature through wicker baskets.

All these juices yield in distillation with water an highly penetrating essential-oil, a brittle insipid resin remaining behind. With regard to their medical virtues, they promote urine, cleanse the parts concerned in the evacuation thereof, and deterge internal ulcers in general; and at the same time, like other bitter hot substances, strengthen the tone of the vessels: they have an advantage above most other acrid diuretics, that they gently loosen the belly. Half an ounce or an ounce of Venice turpentine, triturated

with the yolk of an egg, and diffused in water, may be employed in the form of an injection, as the most certain laxative in colics, and other cases of obstinate constiveness. They are principally recommended in *gleets*, and the *fluor albus*: the efficacy in the former of these disorders is ascribed to its inducing some degree of inflammation of the urethra; in proof of which Dr. CULLEN says, that he has had some instances, both of turpentine and the balsam of copaiva producing a manifest inflammation of the urethra, to the degree of occasioning a suppression of urine; but when these effects went off, the gleet which had subsisted for some time before, was entirely cured. By some also they are considered useful in *calculous complaints*: where these last proceed from sand or gravel, formed into a mass by viscid mucous matter, the turpentine, by dissolving the mucus, promote the expulsion of the sand; but where a calculus is formed, they can do no service, and only ineffectually irritate or inflame the parts. In all cases accompanied with inflammation, these juices ought to be abstained from, as this symptom is increased, and not unfrequently occasioned by them. It is observable, that the turpentine impart, soon after taking them, a violet smell to the urine; and have this effect, though applied only externally to remote parts; particularly the Venice sort. This is accounted the most powerful as a diuretic and detergent; and the Chian and Strasburgh as corroborants: the common turpentine, as being the most offensive, is rarely given internally; its principal use is in plasters and ointments among farriers, and for the distillation of the oil, or spirit, as it is called. The dose of these juices is from a scruple to a dram

and a half. They are most commodiously taken in the form of a bolus, or dissolved in watery liquors by the mediation of the yolk of an egg or mucilage. Of the distilled oil a few drops are a sufficient dose. This is a most potent, stimulating, detergent diuretic, often greatly heats the constitution, and requires the utmost caution in its exhibition.

It is not only preferred for external use, as a *rubefacient*, &c. but also internally as a *diuretic*; and by PITCAIRN and CHEYNE, as a remedy for the *sciatica*; but few stomachs can bear the doses they direct; it should therefore be begun with in small ones, and gradually increased.

When turpentine is carried into the blood-vessels, it stimulates the whole system; hence its use in *chronic rheumatism*, and in *paralysis*.

MED. VIRT. Warm Stimulant — Diuretic — Aperient.

PREP. Essential Oil.

THEÆ folia: *Thea bohea et viridis* Lin. Tea; the leaves of a shrub cultivated in China.

The several sorts of tea met with among us, are the leaves of the same plant, collected at different times, and cured in a somewhat different manner. The small young leaves very carefully dried, are the *finer green*. The older afford the *ordinary green* and *bohea*. The two first have a sensible flavour of violets; the other, of roses. The former is the natural odour of the plant; the latter, as Neumann observes, is probably introduced by art. Some of the dealers in this commodity in Europe are not ignorant that *bohea-tea* is imitable by the leaves of certain common plants, artificially tinctured, and impregnated with the rose flavour. The taste of both sorts is slightly bitterish, subastringent, and somewhat aromatic. The medical vir-

tues attributed to these leaves are sufficiently numerous, though few of them have any just foundation: little more can be expected from the common infusions, than that of a *diluent*, acceptable to the palate and stomach: the diuretic, diaphoretic, and other virtues which they have been celebrated for, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing arises in distillation from either sort of tea with rectified spirit; water elevates the whole of their flavour.

Good tea in moderate quantity seems to refresh and strengthen; but, if taken in a recent highly flavoured state, and in considerable quantity, its use is apt to be succeeded by weakness, tremors, and other similar consequences resulting from the sedative and narcotic vegetables. Dr. SMITH, in his Experiments on Muscular Action, No. 36; found that an infusion of green tea had the effect of destroying the sensibility of the fauces, and the irritability of the muscles. And from the experiments of Dr. LETTSON, it appears that green tea, on distillation, gives out an odorous water, which is powerfully narcotic: and Dr. CULLEN, from the observations he has made for fifty years in all sorts of persons, is convinced, that the qualities of tea are *narcotic*, and *sedative*. Notwithstanding which, he does not deny but that it may sometimes shew useful qualities:—It is very possible, that, in certain persons, taken in moderate quantity, it may, like other narcotics in a moderate dose, prove like these *exhilarating*, or have some effect in taking off *irritability*, or in quieting some irregularities of the nervous system. As its bad effects have been often imputed to the warm or rather hot water that accompanies, it so there is no doubt

but some of its good effects may also be ascribed to the same cause, and particularly its being often so grateful after a full meal.

MED. VIRT. *Narcotic*—*Sedative*,
THLAPSIS semen. *Thlapsi arvense* Lin. Treacle, or mithridate, mustard; the seeds.

Two sorts of thlapsi are used promiscuously; they both grow wild, the latter most plentifully. These seeds have an acrid biting taste like common mustard, with which they agree in medical qualities.

THUS VULGARE, *resina* [L.] Common frankincense; a solid, brittle resin, brought to us in little glebes or masses, of a brownish or yellowish colour on the outside; internally whitish, or variegated with whitish specks; of a bitterish, acrid, not agreeable taste, without any considerable smell. It is supposed to be the produce of the pine-tree which yields the terebinthina communis; and to concrete on the surface of the terebinthinate juice soon after it has issued from the plant.

THYMI *folia*: *Thymi vulgaris* Lin. Common thyme; the leaves [E.]

This plant is frequent in our gardens, and flowers in June and July. It has an agreeable aromatic smell, and a warm pungent taste; which it imparts by infusion to rectified spirit, and sends over in distillation with water. Along with the water arises an essential oil, extremely hot and pungent.

BERGIUS considers thyme as *resolvent*, *emmenagogue*, *diuretic*, *tonic*, *stomachic*; but there is no disease in which its use is recommended. As an aromatic, it may be as useful as lavender, sage, rosemary, &c. It differs little from *origanum*, and may be put to the same use.

TILIE *flores*: *Tilia Europaea* Lin. The lime or linden tree; its flowers,

The lime-tree has been much valued on account of its quick growth and pleasant shade; it flowers in July, and loses its leaves soon after. The flowers are made use of chiefly on account of their agreeable flavour, which water extracts from them by infusion, and elevates in distillation. Among the writers on the *Materia Medica*, they have the character of an *antiepileptic*, and a *specific in all kinds of spasms and pains*. Frederick Hoffmann relates, that he knew a chronic epilepsy cured by the use of an infusion of these flowers drunk as tea.

MED. VIRT. *Antispasmodic.*

TORMENTILLÆ *radix*: *Tormentillæ erectæ*. Lin. S. P. Tormentil, or septfoil; the root [L. E.]

Tormentil is found wild in woods and on commons. It has long slender stalks, with usually seven long narrow leaves at a joint; the root is for the most part crooked and knotty, of a blackish colour on the outside, and a reddish within. This root has an austere styptic taste, accompanied with a slight kind of aromatic flavour. It is one of the most agreeable and efficacious of the vegetable astringents, and is employed with success in all cases where medicines of this class are proper. It is more used, both in extemporaneous prescription and in official composition, than any of the other strong vegetable astringents. As the resin it contains is very considerable, it seems more particularly adapted to those cases where the heating and stimulating medicines of this class are less proper, as *phthisical diarrhæa*, *diarrhæa cruenta*. Given in substance, and in large doses, either by itself or joined with gentian, it has been said to cure *intermittents*. In *hæmorrhages*, *fluor albus*, and *involuntary micturition*, tormentil-root has been considered advantageous.

In powder, from half a dram to a dram or more, has been given for a dose; but the following decoction has been more frequently prescribed. An ounce and a half of the powdered root is ordered to be boiled in three pints of water to a quart, adding, towards the end of the boiling, a dram of cinnamon. Of the strained liquor, sweetened with any agreeable syrup, two ounces or more may be taken four times a day.

A tincture made from it with rectified spirit possesses the whole astringency and flavour of the root, and loses nothing of either in inspissation.

MED. VIRT. *Astringent.*

TOXICODENDRON: *Rhus Toxicodendron* Lin. Gen. Plan. Poison-tree, or Poison-wood.

This tree is a native of America, though it has been introduced into England ever since the year 1640. It is extremely noxious, either by handling it or by the smell.

Many people have been poisoned by the smell of the tree when cut down; many while burning it in their fires: they are often swelled and choaked up in a wonderful manner. By handling it many have been made blind for several days. It does not act alike on all; for on some it will not have any effect. The poison of the tree is never mortal, but goes off without any assistance in a few days; *sallad oil*, and *cream*, rubbed upon the parts, expedite the removal of its effects. The first symptoms of its action are a violent itching in the skin, so great as to provoke scratching and rubbing; then succeed inflammation and swelling of the part: sometimes the whole body is swelled and poisoned in this manner; sometimes only a particular part, as the legs; and in this case they often discharge a quantity of serum, and then grow well. The chief use

that is made of the juice of this plant is for dying linen of a black colour. There are several cases of its good effects in paralysis recited by Dr. ALDERSON. The best mode of giving it is in form of powder, beginning with a quarter of a grain, made into a bolus twice a day, and gradually increasing the dose and repetition according to its effects. And it is probable that this medicine may produce good effects in other cases of nervous affections.

TRICHOMANIS folia: *Asplenii Trichomanis* Lin. English maiden-hair; the leaves [E.]

This is one of the herbs called, from the smallness of their stalks, capillary. It is found wild in different parts of England, upon old walls, and in shady places. The leaves have a mucilaginous, sweetish, subastringent taste, without any particular flavour; they are esteemed useful in disorders of the breast proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera. They are usually directed in infusion or decoction, with the addition of a little liquorice. A syrup prepared from them, though it has no place in our Pharmacopœias, is frequently met with in the shops, both as prepared abroad and at home. The syrup brought from abroad has an admixture of orange flower water.

A little of these mixed with water makes a very pleasant draught.

MED. VIRT. *Pectoral.*

PREP. *Syrup.*

TRIFOLI PALUDOSI folia: *Menyanthis trifoliata* Lin. Marsh trefoil, or buck-beans; the leaves [L. E.]

This plant grows wild in moist marshy places; it has three oval leaves, standing together upon one pedicle which issues from the root; their taste is very bitter, and some-

what nauseous. Marsh trefoil is an efficacious aperient, and deobstruent, promotes the fluid secretions, and, if liberally taken, gently loosens the belly. It has gained great reputation in scorbutic and scrophulous disorders, in dropsy, jaundice, asthma, rheumatism, worms, gout; and its good effects in these cases have been warranted by experience. In- veterate cutaneous diseases have been removed by an infusion of the leaves, drunk to the quantity of a pint a day, at proper intervals, and continued some weeks. Dr. CULLEN has had frequent experience of their good effects in some of these of herpetic and seemingly cancerous kind. Boerhaave relates, that he was relieved of the gout by drinking the juice mixed with whey.

It is said, that of late years that the leaves of buck-bean has come into common use, as an alterant and aperient, in impurities of the humours, and some hydropic and rheumatic cases; and as an active and eccoprotic bitter they appear not ill adapted to supply the want of bile in the primæ viæ; and thence may be inferred their use in protracted jaundice, and other biliary obstructions.

From one scruple to ʒj. of the leaves in powder, may be given two or three times a day; or perhaps a strong infusion is preferable.

MED. VIRT. *Laxative — Aperient — Alterative.*

TRITICI farina, amyllum: *Tritici hybernici* L. S. P. Wheat; the meal, and starch [L.] (prepared from the meal by maceration in fresh quantities of water and bran.)

Wheat, a common article of our food, is more glutinous and nutritious than most other kinds of grain. The FLOUR, or the STARCH, prepared from it, forms with water a soft viscid substance, which has

been taken with success in *diarrhæas* and *dysenteries*.

BRAN contains, besides the husks or shells of the wheat, a portion of its farinaceous matter. This is less glutinous than the finer flour, and is supposed to have a detergent quality. Bran is not unfrequently employed in this intention externally; and infused in boiling water, and sweetened with honey, to which a proper proportion of nitre may be added, taken liberally, is very serviceable in catarrhus complaints, and slight coughs, occasioned by what is called catching of cold.

BREAD, that which is good, should be composed of flour well kneaded with the lightest water, seasoned with a little salt, fermented with the finest yeast, and sufficiently baked. Unfermented bread is viscid and glutinous, which properties are destroyed by fermentation; and hence the bread becomes more easily digestible, but at the same time it inclines to acidity. That bread which is the lightest, and most easily dissolved in water, is the most wholesome, digested with the greatest facility, and soonest converted to laudable nutrition. Bread, highly toasted, not burnt, till it is the colour of coffee, and infused, or lightly boiled in water, imparts a deep colour, and a sufficiently agreeable restringent taste. This liquor, taken as common drink, has done service in a *weak lax state of the stomach and intestines*; and in *bilious vomiting* and *purgings*, or the *cholera morbus*: examples are related in the Edinburgh Essays of several cases of this kind cured by it, without the use of any other medicine.

MED. VIRT. *Nutritious and glutinous.*

PREP. *Flour, bread, starch, and bran.*

TURPETHUM: *Convolvulus*

Turpethum Lin. Turbith; the cortical part of the root of an Indian convolvulus, brought to us in oblong pieces, of a brown or ash colour on the outside, and whitish within. The best is ponderous, not wrinkled, easy to break, and discovers a large quantity of resinous matter to the eye. Its taste is at first sweetish; chewed for a little time, it becomes acrid, pungent, and nauseous. This root is a *cathartic*, not of the safest or most certain kind. The resinous matter, in which its virtue resides, appears to be very unequally distributed; insomuch that some pieces, taken from a scruple to a dram, purge violently; while others, in larger doses, have scarce any effect at all. An extract made from the root is more uniform in strength, though not superior or equal to purgatives more common in the shops.

MED. VIRT. *Violently cathartic.*

PREP. *Extract.*

TUSSILAGINIS *folia, et flores*; *Tussilaginis farfarae Lin. S. P.* Coltsfoot: the leaves and flowers [*L. E.*]

This grows wild in watery places, producing yellow flowers in February and March. These soon fall off, and are succeeded by large roundish leaves, hairy underneath. Their taste is rough and mucilaginous; but they have no remarkable smell. The leaves have always been recommended as possessing *demulcent* and *pectoral virtues*; consequently esteemed useful in *pulmonary consumption*, *coughs*, *asthmæ*, and *other disorders of the breast and lungs*. FULLER recommends it as a valuable medicine in *scrophula*; and Dr. CULLEN found it serviceable in some *strumous swellings*, as did also PERCIVAL in *hectic diarrhæa*. It is commonly used as tea, or given by way of infusion, to which liquorice-root, or honey, may be added.

MED. VIRT. *Emollient and mucilaginous.*

TUTIA [E.] Tutty; an impure sublimate of zinc, or an argillaceous substance impregnated therewith, formed into tubulous pieces like the bark of a tree. It is moderately hard and ponderous, of a brownish colour, and full of small protuberances on the outside, smooth and yellowish within. Some pieces have a blueish cast, from minute globules of zinc being thrown up by the heat in its metallic form. Tutty is celebrated as an *ophthalmic*, and frequently employed as such in unguents and collyria. See **ZINCUM**.

VALERIANÆ SILVESTRIS radix: *Valeriana officinalis* Lin S. P. Wild valerian; its root [L. E.]

This root consists of a number of strings or fibres matted together, issuing from one common head; of a whitish or pale brownish colour: its smell is strong, like a mixture of aromatics with fetids; the taste unpleasantly warm, bitterish, and sub-acrid. There is another wild valerian, with broader leaves, of a deeper and shining green colour, met with in watery places. Both sorts have hitherto been used indiscriminately; and Linnæus has joined them into one species; but the former is considerably the stronger, and loses much of its quality if transplanted into such soils as the other naturally delights in. The roots produced in low watery grounds, have a remarkably faint smell in comparison of the others, and sometimes scarce any at all. Wild valerian grows on open, dry, mountainous places; and taken up in autumn, or winter, has much stronger sensible qualities than that collected in spring and summer. The root is a medicine of great use in *nervous disorders*, and is particularly *serviceable in epilepsies* proceeding from a debility of the nervous system. It was first brought into esteem in these cases

by Fabius Columna, who by taking the powdered root, in the dose of half a spoonful, was cured of an inveterate epilepsy, after many other medicines had been tried in vain. But it was given in some cases of epilepsy at the Edinburgh dispensary, to the extent of two ounces a day, without any effect. However it has been tried in several other complaints termed nervous, particularly those produced by increased mobility and irritability of the nervous system, and has there been highly serviceable. BERGIUS considers it as *antispasmodic*, *diaphoretic*, *emmenagogue*, *diuretic*, and *anthelmintic*; the first of which powers is very well established; and hence it is recommended in *epilepsy*, *convulsions*, *hemicrania*, *hysteria*, and dimness of sight; in which last case FORDYCE recommends it very highly. It should be given in large doses from ʒj to 3ij or more; in infusion, from one to two drams. Its unpleasant flavour is most effectually concealed by a suitable addition of mace.

MED. VIRT. *Antispasmodic*.

PREP. Powder — a *spirituous and volatile Tincture*.

VERONICÆ MARIS folia: *Veronica officinalis* Lin. Male speedwell; the leaves.

This is one of the veronicæ which produce their flowers in clusters at the joints of the stalks. It is a rough procumbent plant, not unfrequently met with on dry commons, and in sandy grounds. In taste, smell, and medical virtues, it is similar to the betonica; though the veronica is commonly supposed to have more of an *aperient* and *pectoral* virtue, and betony to be rather *nervine* and *cephalic*. Hoffman and Joh. Franciscus have written express treatises on this plant, recommending infusions of it, drunk in the form of tea, as very salubrious in many disorders, particularly those of the breast.

MED. VIRT. *Aperient — Pectoral.*
VINCETOXICI radix: Asclepiadis Vincetoxici Lin. Swallow-wort, or tame poison; the root.

This is a native of the warmer climates: it is sometimes met with in our gardens, but rarely perfects its seeds. It is reckoned by botanists, a species of apocynum, or dogbane; from all the poisonous sorts of which it may be distinguished, by yielding a limpid juice, whilst that of the others is milky. The root has a strong smell, especially when fresh, approaching to that of valerian, or nard; the taste is at first sweetish and aromatic, but soon becomes bitterish, subacid, and nauseous. This root is esteemed sudorific, diuretic, and emmenagogue, and frequently employed by the French and German physicians as an alexipharmic, sometimes as a succedaneum to contrayerva: whence it has received the name of contrayerva Germanorum. Among us it is very rarely made use of: it appears, from its sensible qualities, to be a medicine of much the same kind with valerian, which is indisputably preferable to it.

MED. VIRT. *Sudorific — Antispasmodic.*

VINUM. Wine; the fermented juice of the grape. Among the great variety of wines in common use among us, four are employed in the shops as menstrua for medicinal simples [L. E.]

Vinum album, vinum album Hispanicum, Mountain.

Vinum Canarinum, Canary or sack.

Vinum Rhenanum, Rhenish.

Vinum rubrum, Red port.

The uses of these liquors as menstrua and vehicles of the virtues of other medicines, will be given hereafter; in this place we shall consider only their effects on the human body. These are, *to cheer the spirits, warm the habit, promote perspiration, render the vessels full and*

turgid, raise the pulse, quicken the circulation, and in large quantities to prove intoxicating and sedative. The effects of the full-bodied wines, are much more durable than those of the thinner; all sweet wines, as Canary, abound with a glutinous nutritious substance; whilst the others are not nutrimental, or only accidentally so, by strengthening the organs employed in digestion. Sweet wines in general do not pass off freely by urine, and heat the constitution more than an equal quantity of any other, though containing full as much spirit; red port, and most of the red wines, have an astringent quality, by which they strengthen the tone of the stomach and intestines, and thus prove serviceable for restraining immoderate secretions: those which are of an acid nature, as Rhenish, pass freely by the kidneys, and gently loosen the belly: it is supposed that these last exasperate or occasion gouty and calculous disorders; and that new wines of every kind have this effect.

All wines, on a chemical investigation, chiefly consist of water, alcohol, a peculiar acid, the aerial acid, tartar, and an astringent gummy resinous matter, in which the colour of the red wine resides, and which is pressed out of the hulks of the grapes. They differ from each other in proportion to these ingredients, and particularly in that of alcohol which they contain.

The qualities of wine depend not only upon the difference of the grapes, as containing more or less saccharine matter, and of the acid matter which accompanies it, but also upon the circumstances attending the fermentative process. If the fermentation be incomplete, that is, not carried far enough, the wine may contain a portion of must, or unassimilated juice; or if it be too active, or too long protracted, it may be converted into vinegar.

Wine in many disorders is highly serviceable, particularly in fevers of the *typhous kind*, or of a *putrid tendency*, in which it is found to raise the pulse, support the strength, promote a diaphoresis, and resist putrefaction; and in many cases it proves of more immediate advantage than bark.

Delirium, which is the consequence of excessive irritability, or of a defective state of nervous energy, is often entirely removed by the free use of wine. Those who indulge in the use of wine are *less subject to fevers*, both of the *malignant* and *intermittent kind*. In *putrid sore throat*, in the *small pox*, when attended with great debility and symptoms of putrescency, in *gangrenes*, in the *plague*, wine is to be considered a principal remedy. And in almost all cases of languors, and of great prostration of strength, wine is experienced to be a more grateful and efficacious cordial than can be furnished from the whole class of aromatics.

MED. VIRT. Cordial — Corroborant — Antiputrescent.

VIOLÆ flores: *Viola odorata* Lin. The single March violet; its flowers [L. E.]

This is often found wild in hedges and shady places, and flowers in March; the shops are generally supplied from gardens. In our markets, we meet with the flowers of a different species, named by botanists *viola martia major hirsuta*, *inodora*: these may be distinguished from the foregoing by their being larger, of a pale colour, and no smell. The officinal flowers have a very pleasant smell, and a deep purplish blue colour, denominated from them violet. They impart their colour and flavour to aqueous liquors: a syrup made from the infusion has long maintained a place in the shops, and proves an agreeable and useful laxative for children.

This syrup is also found useful in many chemical experiments, to detect an acid, or an alkali; the former changing the blue colour to a red, the latter to a green.

MED. VIRT. Laxative.

PREP. A Syrup.

* VIOLÆ Tricoloris folia Lin. Pansies or hearts-ease. This plant has been lately recommended by Dr. Strack, a German physician, as a specific in the *crusta lactea* of children. He directs a handful of the fresh, or half a dram of the dried, leaves to be boiled in half a pint of milk, which is to be strained for use. This dose is repeated morning and evening. He observes, that when it has been administered eight days, the eruption usually increases considerably, and the patient's urine acquires a smell like that of cats. When the medicine has been taken a fortnight, the scurf begins to fall off in large scales, leaving the skin clean. The remedy is to be persisted in, till the skin has resumed its natural appearance, and the urine ceases to have any particular smell.

VIPERA [E.] The viper, or adder, is one of the viviparous reptiles, without feet, about an inch in thickness, and twenty or thirty in length. The poison of this serpent is confined to its mouth. At the basis of the fangs, or long teeth with which it wounds, is lodged a little bag containing the poisonous liquid; a very minute portion of which, mixed immediately with the blood, proves fatal. Our viper-catchers are said to prevent the mischiefs otherwise following from the bite, by rubbing oil-olive warm on the part. The flesh of the viper is perfectly innocent; and strongly recommended as a medicine of extraordinary service in *scrophulous*, *leprous*, and other *obstinate chemical disorders*: its virtues, however, in these cases, are probably too much exaggerated. The viper is doubt-

less an highly nutritious food; and hence in some kinds of weaknesses, and emaciated habits, is not undeservedly looked upon as a good restorative. To answer any valuable purposes, fresh vigorous vipers (not such as have been long kept alive after they are caught) should be liberally used as food. The wines and tinctures of them can scarce be supposed to receive any considerable virtue from the animal; the dry flesh brought us from abroad, is entirely insignificant.

MED. VIRT. *Restorative.*

VIRGÆ AURÆÆ folia: Solidaginis Virgæ aureæ Lin. Golden rod; the leaves.

This is found wild on heaths and in woods, producing spikes of yellow flowers in August. The leaves have a moderately astringent bitter taste, and hence prove serviceable in *debility and laxity of the viscera*, and *disorders proceeding from that cause*.

VISCI QUERNI lignum, folia. Visci albi Lin. Mistletoe; the wood and leaves.

This is a bushy plant, growing on the trunk and branches of different trees. That met with on the oak is generally preferred, perhaps on account of its being the most rare. It may, however, be propagated by art on any trees, by rubbing the berries against the bark. This office has hitherto been performed by the thrush (who feeds on the berries in the winter) in clearing his bill from the seeds that stick about it. This plant was held in veneration by the superstition of former ages: it was hung about the neck to prevent witchcraft, and taken internally to expel poisons. Of late it has been celebrated as a *specific in epilepsies, palsies, &c.* virtues, to which it were greatly to be wished that experience gave any countenance.

VITIS VINIFERA Lin. The

vine-tree. [L. E.] The leaves of this tree were formerly celebrated as astringents, but have for a long time been entirely disregarded: their taste is herbaceous, with only a slight roughness. The trunk of the tree, wounded in the spring, yields a clear, limpid, watery juice: this tear of the vine has been accounted *excellent for sore eyes*; and by some recommended likewise in *ardent and malignant fevers*, and as a *diuretic*. The flowers have a pleasant smell, which water elevates from them in distillation; along with the water, a small portion of an elegant essential oil is said to arise, possessing in great perfection the fragrance of the flowers. The unripe fruit is of a very harsh, rough, sour taste: its expressed juice, called *verjuice*, was of great esteem among the ancients, and still continues so in some places, as a *cooling astringent medicine*. A rob and syrup were formerly prepared from it. The ripe fruit of grapes, of which there are several kinds, properly cured and dried, are the raisins and currants of the shops; the juice by fermentation affords wine, vinegar, and tartar; all which have been before treated of.

MED. VIRT. *Astringent — Diuretic — Aromatic — Pectoral.*

PREP. *Wine — Vinegar — Tartar — the dried Fruit, or Raisins.*

VITRIOLUM. Vitriol is a saline crystalline concrete, composed of metal, and an acid similar to those of sulphur and alum. There are *but three metallic bodies, which this acid is capable of perfectly dissolving or being united with into a crystalline appearance* — zinc, copper, and iron. With the first it forms a white, with the second a blue, and with the third a green salt.

VITRIOLUM ALBUM ZINCUM VITRIOLATUM [L. E.] *White vitriol, or vitriol of zinc*; found in the mines of Goslar, sometimes in

transparent pieces, but more commonly in form of white efflorescences, which are dissolved in water, and afterwards reduced by evaporation and crystallization into large masses. We rarely meet with this sort of vitriol pure; after the zinc, which is its proper basis, has been revived by inflammable fluxes, there remains a substance which is attracted by the magnet, and discovers itself, on other trials also, to be iron: a solution of the vitriol deposits, on standing, an ochery sediment, which generally gives a blue tincture to volatile alkalis, and hence appears to contain copper. White vitriol is sometimes given from five or six grains to half a dram, *as an emetic*; it operates very quickly, and, if pure, without violence; and hence is an useful remedy where poison has been swallowed. It is said to have been administered with good effect in doses of $\frac{1}{2}$ of a grain to a grain, in chin-cough, and other spasmodic affections. *Externally*, it is employed *as an ophthalmic*, and often made the basis of collyria, as an *astringent* and *tonic*, in extemporaneous prescription for *weak eyes*; and, *by injection*, for the *fluor albus*, *gleets*, and *seminal weaknesses*, in the proportion of 3fs. to a pint.

MED. VIRT. *Tonic—Astringent—Emetic*—See also ZINCUM.

VITRIOLUM CÆRULEUM: *Cuprum vitriolatum* [L. E.] *Blue vitriol*, or *vitriol of copper*, falsely called Roman vitriol. Greatest part of the blue vitriol at present met with in the shops, is said to be artificially prepared by uniting copper with the vitriolic acid. This salt has a highly austere, acrid, and very nauseous taste. It has been given in small doses as an emetic in *phthisis pulmonalis* every morning, or every other morning, and with some effect; and also in *obstinate intermittents*, and *as a general tonic*—

one quarter of a grain, or more, with five or ten grains of extract of bark, and two or three grains of aromatic powder, three times a day during the intermissions.

It has been used externally for *stopping hæmorrhages*, which it effects by coagulating the blood, and contracting the mouths of the vessels; and as an *escharotic*, for destroying proud flesh—but not so proper for that purpose as lunar caustic; except when the flesh is extremely loose and flabby. Lint, soaked in a mild solution of it and dried, is sometimes a preferable application. The styptic solution is ordered with blue vitriol three drams, alum one dram, dissolved by boiling in twelve ounces of water, to which are added two drams of vitriolic acid, the whole to be filtered through paper: cloths and dossils are to be dipped in this liquor and applied.

MED. VIRT. *Tonic—Styptic—Escharotic*.

PREP. *Aq. Cupri ammoniati*—See also CUPRUM.

VITRIOLUM VIRIDE: *Ferrum vitriolatum* [L. E.] *Green vitriol*, or *vitriol of iron*, commonly called copperas; the Roman vitriol of the Italian and other foreign writers. This is prepared in large quantity at Deptford, by dissolving iron in the acid liquor which runs from certain sulphureous pyrites, exposed for a length of time to the air. When pure, it is similar in quality to the officinal *sal martis*.

The green and blue vitriols (as well as the white) are in many places found native in the earth; though, usually, in this state neither sort is free from an admixture of the other: hence vitriols are met with of all the intermediate colours betwixt the grass green of the one and the sapphire blue of the other. The acid of these salts has the greatest affinity with zinc,

next to this with iron, and with copper the least of all. Hence, solutions of white vitriol deposit, on standing, greatest part of the iron and cupreous matter which they contain, and if some fresh zinc be added, the whole. In like manner, upon adding bright polished iron to solutions of green vitriol, if it hold any cupreous matter, this will be thrown down. By these means the white and green vitriols may be purified from other metallic bodies.

For the medical powers of this chalybeate salt, see FERRUM.

ULMI cortex interior: *Ulmī campestris* Lin. S. P. The elm tree; the inner bark [L. E.]

This is a tall tree growing in hedges, most plentiful in Middlesex and Worcestershire; the bark of which has a mild astringent taste. A decoction of the inner bark has been recommended in various chronic and cutaneous eruptions, and is said to cure the lepra ichthyosis of SAUVAGES. It is given in decoction, boiling four ounces of the bark nearest the wood, fresh taken from the tree, in four pints of water to two; half a pint of which is to be administered two or three times a day; the efficacy of which is increased by adding nitre, and occasionally giving purgatives. In the spring the bark should be taken, from the smaller, not the smallest, branches; in autumn, from the branching roots. Its use has also been proposed in various other diseases, as fluor albus, rheumatism, old ulcers, cancerous and scrophulous affections, tinea capitis, &c. In very obstinate cases it is necessary to persist in the use of it for some months.

MED. VIRT. Astringent.

URTICA: *Urtica dioica* Lin. S. P. herba. Stinging-nettle; the plant [L. E.]

Though the present practice pays

very little regard to this plant, yet, if the testimony of many respectable practitioners is to be credited, it seems not devoid of medical utility. The juice taken from two to four ounces is recommended in nephritic complaints; in internal hæmorrhagy, hæmoptysis, and, joined with equisetum, in bloody urine. The nettle is a common remedy amongst the people of Brunswick, in an incipient phthisis. When the juice is not to be obtained, the powder is used mixed with honey or sugar. Externally it has been employed as a rubefacient; and this method of cure has been called URTICATION; and found efficacious in restoring excitement to paralytic limbs, or in other cases of torpor, or lethargy. WITHERING tells us, a nettle leaf put upon the tongue, and then pressed against the roof of the mouth, is sometimes efficacious in stopping a bleeding at the nose.

MED. VIRT. Rubifacient.

UVÆ PASSÆ [L. E.] *majoræ*. Raisins of the sun; the dried grapes of the *vitis Damascena*.

UVÆ PASSÆ *minores*. Currants; the dried grapes of the *vitis Corinthiaca*.

The principal use of these is as an agreeable sweet; they impart a very pleasant flavour both to aqueous and spirituous menstrua. The seeds or stones are supposed to give a disagreeable relish, and hence are generally directed to be taken out; but I have not found that they give any taste at all.

UVÆ URSI *folia*: *Arbuti uvæ ursi* Lin. S. P. Bear's whortleberry, or trailing arbutus; the leaf [L. E.]

This is an evergreen shrubby plant, with oblong oval leaves, found on the snowy mountains of Germany and Sweden, and on the hills of Scotland. The smell of the dried leaves is like that of the extract of liquorice, and they have an

astringent and bitter taste. The uva ursi was employed by the ancients in disorders where astringent medicines were necessary; but it had fallen into disuse till about the middle of the present century, when it first drew the attention of physicians as an useful remedy in *calculous and nephritic complaints*; and in almost all others to which the urinary organs are subject, such as *ulcers of the kidneys and bladder, cystitis, hæmaturia, diabetes, dysuria, &c.* Nay even by some it was considered as a solvent of the human calculi; however, from a multiplicity of experiments it has not appeared to possess this dissolving power; yet still it may be considered as a valuable remedy, if it only lessens the torture, and thereby renders life more tolerable. Whatever good effects it produces, they seem to be derived from its astringent power. When given in powder, from fifteen grains to forty, two or three times a day; or in infusion of ʒj. or ʒij. in a pint of water daily; or in decoction, which, though not so agreeable, is more efficacious.

MED. VIRT. *Astringent,*

WINTERANI CORTEX [E.]

Winter's bark; the produce of a tree growing in Jamaica, Barbadoes, &c. called by Sir Hans Sloane *periclymenum rectum, foliis laurinis, cortice acris aromatico*. It was first discovered on the coast of Magellan, by Capt. Winter, in the year 1567. The sailors then employed the bark as a spice, and afterwards found it serviceable in the *scurvy*; for which purpose it is, at present also, sometimes made use of in diet-drinks. The true Winter's bark is not often met with in the shops, canella alba being generally substituted for it, and by many reckoned to be the same. There is nevertheless a considerable difference betwixt them in appear-

ance, and a greater in quality; the Winter's bark is in larger pieces, of a more cinnamon-colour, than the canella; and tastes much warmer and more pungent.

ZEDOARIA [L. E.] *Kampferia rotunda* Lin. S. P. Zedoary; the root of an Indian plant, brought over in oblong pieces about the thickness of the finger, or in roundish ones about an inch in diameter. Both sorts have an agreeable fragrant smell, and a warm, bitterish aromatic taste.

In distillation with water, it yields an essential oil, possessing the smell and flavour of the zedoary in an eminent degree; the remaining decoction is almost simply bitter. Spirit likewise brings over some small share of its flavour; nevertheless the spirituous extract is considerably more grateful than the zedoary itself.

Its effects as a bitter, or aromatic, are so inconsiderable, and as the camphor it contains can avail but little, it is deemed to possess very little medicinal power.

ZIBETHUM. Civet; a soft unctuous substance, of a white, brown, or blackish colour, brought from the Brazils, the coast of Guinea, and the East Indies. It is met with in certain bags, situated in the lower part of the belly of an animal said to be of the cat kind. The chief use of this drug is in perfumes. It is rarely, if ever, employed for any medicinal purposes.

ZINCUM. Zinc [L. E.]; a metal, differing from all the other bodies of that class, in being inflammable *per se*, sublimable into flowers which afterwards remain fixed in the strongest fire, soluble in every acid, not miscible in fusion with sulphur, changing copper into a yellow metal, brass. Several productions of this metal,

though not generally known to be such, are kept in the shops; as its rich ore calamine, the white vitriol, the pure white flowers of zinc called pompholyx, and the more impure compound tutty. The preparations of zinc are employed principally in external applications as ophthalmics. The flowers levigated into an impalpable powder, form with oily substances an useful unguent, and with rose-water, and the like, elegant collyria, for defluxions of thin sharp humours upon the eyes: they are moderately astringent; and act, if the levigation have been duly performed, without acrimony or irritation.

Internally it has been prescribed in doses of two grains, gradually increased to six or more, in epilepsies, hysteria, chorea sancti Viti, and other spasmodic affections; but it appears to be a medicine of much uncertainty, and the white vitriol in many cases has seemed to answer every purpose of zinc. When the zinc is employed, if it does not soon answer the prescriber's purpose, it should not be long persevered in, nor given in very large doses, as, introduced into the body in a certain quantity, it may prove a violent poison, agreeably to the experiments of Mr. Hellot.

MED. VIRT. *Antiepileptic — Antispasmodic.*

PREP. from. *White Vitriol — Calamine — Tutty — Flowers.*

ZINGIBER [L. E.] *Amomum Zingiber* Lin. S. P. Ginger; a root brought from China and the East and West Indies; of a fragrant smell, and a hot, biting, aromatic taste. Rectified spirit extracts its virtues by infusion, in much greater perfection than aqueous liquors. The latter elevate its whole flavour in distillation, the former little or nothing. Ginger is a very useful spice, in cold flatulent colics, and in laxity and debility of the intestines. It does not heat so much as those of the pepper kind, but its effects are more durable. It is generally considered as an aromatic stimulant, less pungent and heating to the system than might be expected from its effects on the organs of taste. It is chiefly used as a carminative and antispasmodic; and, besides the affections mentioned above, in torpid and phlegmatic constitutions to excite brisker vascular action: though it is seldom given but in conjunction with other medical substances.

MED. VIRT. *Aromatic — Stimulant.*

PREP. *Syrup.*

General titles including several simples.

The five opening roots :

{ Smallage,
Asparagus,
Fennel,
Parsley,
Butchers broom.

The five emollient herbs

{ Marshmallows,
Mallows,
Mercury,
Pellitory of the wall,
Violets.

The four cordial flowers :	{ Borage, Bugloss, Roses, Violets.
The four greater hot seeds :	{ Anise, Caraway, Cummin, Fennel.
The four lesser hot seeds :	{ Bishopsweed, Stone parsley, Smallage, Wild carrot.
The four greater cold seeds :	{ Water melons, Cucumbers, Gourds, Melons.
The four lesser cold seeds :	{ Succory, Endive, Lettuce, Purflane.
The four capillary herbs :	{ Maidenhair, English maidenhair, Wall rue, Ceterach.
The four carminative flowers :	{ Camomile, Feverfew, Dill, Melilot.

The simples of each of the above classes have been often employed together, under the respective general appellations. This practice has entirely ceased among us; and accordingly these denominations are now expunged both from the London and Edinburgh Pharmacopœias, though still retained in foreign ones: and as they are referred to very often by some physicians, and repeatedly mentioned by old writers, suffering them to remain might be of some use.

General rules for the collection and preservation of simples.

ROOTS.

Annual roots are to be taken up before they shoot out stalks or flowers: *biennial ones*, chiefly in the autumn of the same year in which the seeds were sown: *the peren-*

nial, when the leaves fall off, and therefore generally in the autumn. Being washed clean from dirt, and freed from the rotten and decayed fibres, they are to be hung up in a warm,

shady, airy place, till sufficiently dried. The thicker roots require to be slit longitudinally, or cut transversely into thin slices. Such roots as lose their virtues by exsiccation (or are desired to be preserved in a fresh state, for the greater conveniency of their use in certain forms) are to be kept buried in dry sand.

There are two seasons, in which the biennial and perennial roots are reckoned the most vigorous, the autumn and spring; or rather the time when the stalks or leaves have fallen off, and that in which the vegetation is just going to begin again, or soon after it has begun; which times are found to differ considerably in different plants.

The college of Edinburgh, in the two first editions of their Pharmacopœia, directed them to be dug in the spring, after the leaves were formed; in the third edition, the autumn is preferred, and this rule is continued in the succeeding ones. The generality of roots appear indeed to be most efficacious in the spring: but as at this time they are also the most juicy, and consequently shrivel much in drying, and are rather more difficultly preserved, it is commonly thought most advisable to take them up in autumn. No rule however can be given, that shall obtain universally. *Arum* root is taken even in the middle of summer, without suspicion of its being less active than at other seasons; while *angelica* root is inert during the summer, in comparison of what it was in the autumn, spring, or winter.

HERBS and LEAVES.

HERBS are to be gathered when the leaves have come to their full growth, before the flowers unfold; but of some plants the flowery tops are preferred, —

They are to be dried in the same manner as roots.

For the gathering of leaves, there cannot perhaps be any universal rule, any more than for roots; for though most herbs appear to be in their greatest vigour about the time of their flowering, or a little before, there are some in which the medicinal parts are more abundant at an earlier period.

Thus *mallow* and *marshmallow* leaves are most mucilaginous when young, and by the time of flowering approach more to a woody nature. A difference of the same kind is more remarkable in the leaves of certain trees and shrubs: the young buds, or rudiments of the leaves, of the black poplar tree have a strong fragrant smell, approaching to that of storax; but by the time that the leaves have come to their full growth, their fragrance is exhausted.

Herbs are directed by most of the pharmaceutic writers to be dried in the shade; a rule which appears to be very just, though it has sometimes been misunderstood. They are not to be excluded from the sun's heat, but from the strong action of the solar light, by which last their colours are very liable to be altered or destroyed, much more so than those of roots. Slow drying of them in a cool place is far from being of any advantage. Both their colours and virtues are preserved in greatest perfection, when they are dried hastily, by a heat of common fire as great as that which the sun can impart: the juicy ones in particular require to be dried by heat, being otherwise subject to turn black. Odoriferous herbs, dried by fire till they become friable, discover indeed, in this arid state, very little smell; not that the odorous matter is dissipated; but on account of its not being communicated from the

perfectly dry subject to dry air; for as soon as a watery vehicle is supplied, whether by infusing the plant in water, or by exposing it for a little time to a moist air, the odorous parts begin to be extracted by virtue of the aqueous moisture, and discover themselves in their full force.

Of the use of heat in the drying of plants, we have an instance in the curation of tea among the Chinese. According to the accounts of travellers, the leaves, as soon as gathered, are brought into an apartment furnished with a number of little furnaces or stoves, each of which is covered with a clean smooth iron plate. The leaves are spread upon the plates, and kept rolling with the hands till they begin to curl up about the edges; they are then immediately swept off on tables, on which one person continues to roll them, while another fans them that they may cool hastily: this process is repeated two or three times, or oftener, according as the leaves are disposed to unbend on standing.

FLOWERS.

FLOWERS are to be gathered when moderately expanded, on a clear dry day, before noon. Red roses are taken before they open, and the white heels clipped off and thrown away.

THE quick drying, before recommended for the leaves of plants, is more particularly proper for flowers; in most of which both the colour and smell are more perishable than in leaves, and more subject to be impaired by slow exsiccation. Of the flowers which come fresh into the apothecaries' hands, the only ones employed dry in the London Pharmacopœia, are red roses; and these, in all the compositions in which they are used in a dry state, are expressly ordered to be

dried hastily (*celeriter arefactæ*). One of the most valuable aromatics of European growth, saffron, is a part of a flower, dried on paper on a kind of kiln, with a heat sufficient to make it sweat, with care only not to endanger the scorching of it.

It may here be observed, that the virtues of flowers are confined to different parts of the flower in different plants. *Saffron* is a singular production, growing at the end of the style or pistil: the active part of camomile flowers is the yellowish disk, or button in the middle; that of lilies, roses, clove-july-flowers, violets, and many others, the petals or flower-leaves; while rosemary has little virtue in any of these parts, the fragrance admired in the flowers of this plant residing chiefly in the cups.

SEEDS and FRUITS.

SEEDS should be collected when ripe and beginning to grow dry, before they fall off spontaneously. Fruits also are to be gathered when ripe, unless they are ordered to be otherwise [*E.*]

OF the fruits whose collection comes under the notice of the apothecary, there are few which are used in an unripe state: the principal is the *floe*, whose virtue as a mild astringent is greatly diminished by maturation.—The fruit of the orange tree raised in our gardens or green-houses, is sometimes gathered in a state of much greater immaturity, soon after it is formed on the tree, before it has acquired its acid juice; at this time it proves an elegant aromatic bitter, greatly resembling what are called Curassao oranges, which appear to be no other than the same fruit gathered at the same period, in a warmer climate.

The rule for collecting seeds is more general than any of the others; all the officinal seeds being in their greatest perfection at the time of

their maturity. As seeds contain little watery moisture, they require no other warmth for drying them than that of the temperate air in autumn. Such as abound with a gross expressible oil, as those commonly called the cold seeds, should never be exposed to any considerable heat; for this would hasten the rancidity, which, however carefully kept, they are very liable to contract. Seeds are best preserved in their natural hulks, or coverings, which should be separated only at the time of using; the hulk, or cortical part serving to defend the seed from being injured by the air.

WOODS and BARKS.

THE most proper season for the felling of woods, or shaving off their barks, is generally the winter.

THE only woods of our own growth retained in the catalogues of simples in our pharmacopœias, are the *juniper* and *box*; the former of which is rarely or never kept in the shops, or employed in practice; the other is procured from the turner, and it is indifferent at what season it has been cut down, being at all times sufficiently fit for the only use it is applied to, the yielding of an empyreumatic oil by distillation in a strong fire.

Of the barks of our own growth, the London college has not retained one; in the Edinburgh Pharmacopœia there are several, viz. those of the ash tree,—birch tree,—oak,—elm,—sloe,—wild service,—

black alder,— and elder; which, however, have been so rarely used in medicine, that the seasons of their greatest perfection cannot be ascertained from experience. It may be doubted, whether barks be not generally more replete with medicinal matter in the summer and spring than in winter. The barks of many trees are, in summer, so much loaded with resin and gum, as to burst spontaneously, and discharge the redundant quantity. It is said that the bark of the oak answers best for the tanners, at the time of the rising of the sap in spring; and as its use in tanning depends on the same astringent quality for which it is used in medicine, it should seem to be fittest for medicinal purposes also in the spring. It may be observed, likewise, that it is in this last season that barks in general are most conveniently peeled off.

ANIMALS and MINERALS.

ANIMALS and minerals are to be chosen in their most perfect state, unless they are ordered otherwise.

Whatever virtues these bodies may have, they are supposed to be best when they have attained to their common full growth. As there are no distinctions of maturity or immaturity in the mineral kingdom, the only rule for directing our choice here must be the purity of the subjects from any mixture of other bodies. None of them are ever to be used in an impure state.

P A R T III.

PHARMACEUTICAL PREPARATIONS.

CHAPTER I.

THE MORE SIMPLE PREPARATIONS.

QUORUNDAM Aqua non solubiliū Præparatio. *The preparation of some bodies as will not dissolve in water.*

THESE substances are first to be pulverised in a mortar, and then levigated with a little water, upon a hard and smooth marble, into an impalpable powder: this is to be dried upon a chalk stone, covered with filtering paper, and afterwards set by for a few days, in a warm, or, at least, very dry place: *L.*

After this manner are to be prepared,

Ærugo, verdgris. L.

Antimonium, antimony. L. E.

Chelæ cancrorum, crabs claws. L. E. first broken into small pieces, and washed with boiling water.

Corallium, coral. L. E.

Creta, chalk. L. E.

Lapis calaminaris, calamine stone, previously calcined for the use of those who make brass. L. Where this is not to be had, the mineral may be calcined by heating it three times red-hot, and quenching it as often in water. *E.*

Ostreorum testæ, oyster-shells, first cleaned from their impurities.

Succinum, amber. L. E.

Tutia, tutty. L. E.

In preparing antimony, calamine, and tutty, particular care ought to be taken to reduce them into the most subtile powder possible [*L.*] — as the sensibility of the parts to which *calamine* and *tutty* are applied, requires them to be freed from any irritating particles; and antimony, unless thoroughly comminuted, may not only wound the stomach, but pass off without producing any other sensible effect than an increase of the grosser evacuations, whilst, if reduced to the utmost fineness, it may become a medicine of considerable efficacy.

Where large quantities of the foregoing powders are to be prepared, it is customary, instead of the stone and muller, to employ hand-mills made for this use, consisting of two stones, the uppermost of which turns horizontally upon the lower, and has an aperture in the middle for the conveniency of supplying fresh matter, or of returning that which has already passed, till it is reduced to a proper degree of fineness.

For the levigation of hard bodies, particular care should be tak-

en, whatever kind of instruments is made use of, that they be of sufficient hardness, otherwise they will be abraded by the powders.

Some few substances indeed are more advantageously levigated with spirit of wine than with water. A little spirit may be added to the animal substances, if the weather be very hot and large quantities of them are prepared at once, to prevent their running into putrefaction; an accident which, in those circumstances, sometimes happens when they are levigated with water only. Crabs' eyes, which abound with animal gelatinous matter, are particularly liable to this inconvenience.

The most successful method of obtaining these powders of the requisite tenuity, is, to wash off the finer parts by means of water, and continue levigating the remainder till the whole becomes fine enough to remain, for some time, suspended in the fluid; a process received in the Edinburgh Pharmacopœia, and there directed as follows.

Edinb.

A quantity of water is to be poured upon the levigated powder, in a large vessel, and the vessel repeatedly shaken, that the finer parts of the powder may be diffused through the water: the liquor is then to be poured off, and set by till the powder settles. The gross part, which the water would not take up, is to be further levigated, and treated in the same manner.

After this method are prepared antimony, calamine, tutty, and chalk.

By this method, which is that commonly practised in the preparations of colours for the painter, powders may be obtained of any required degree of tenuity; and without the least mixture of the gross parts, which are always found

to remain in them after long continued levigation. All the coarser matter settles at first, and the finer powder continues suspended in the water, longer and longer, in proportion to the degree of its fineness. The same process may likewise be advantageously applied to other hard pulverable bodies of the mineral kingdom, or artificial preparations of them; provided they be not soluble in, or specifically lighter than, water. The animal and absorbent powders, crabs' claws, crabs' eyes, oyster shells, chalk, and coral, are not well adapted to this treatment; nor indeed do they require it. These substances are readily soluble in acid juices without much comminution. If no acid be contained in the first passages, they are apt to concrete with the mucous matter usually lodged there, into hard indissoluble masses; the greater degree of fineness they are reduced to, the more they are disposed to form such concretions, and enabled to obstruct the orifices of small vessels. See page 67.

AXUNGIAE PORCINÆ, SEVIQUE OVILLI PRÆPARATIO.

The preparation of hog's-lard and mutton suet.

Lond.

Chop them into small pieces, and melt them by a gentle heat, with the addition of a little water; then strain them from the membranes.

The use of the water is to prevent the fat from burning and turning black; which it does very effectually, though it somewhat prolongs the process, and is likewise apt to be in part imbibed by the fat. The Edinburgh dispensatory directs the fat to be first freed from the skins, blood vessels, and fibres, then washed in fresh quantities of water till it no longer give the liquor any bloody tinge, afterwards melted, strained, and kept close from the

injuries of the air. The shops are usually supplied with these fats ready prepared.

MELLIS DESPUMATIO.

The despumation or clarifying of honey.
 Lond.

Melt the honey in a water-bath, and let the scum which arises be taken off.

The intention of this process is to purify the honey from wax, or other drossy matters that have been united with it by the violence of the press in its separation from the comb; and from meal and such like substances, which are sometimes fraudulently mingled with it. When the honey is rendered liquid and thin by the heat, these lighter matters rise freely to the surface.

SCILLÆ EXSICCATIO.

The drying of squills.
 Lond.

Let the squill, cleared from its outer skin, be cut transversely into thin slices, and dried with a very gentle heat.

By this method, the squill dries much sooner than when only its several coats are separated, as has been usually directed; the internal part being here laid bare, which, in each of the entire coats, is covered with a thin skin, that impedes the exhalation of the moisture. The root loses, in this process, four fifths of its original weight; the parts which exhale, appear to be merely watery: hence six grains of the dry root are equivalent to half a dram of it when fresh; a circumstance to be particularly regarded in the exhibition of this medicine. A proof of the squill being properly dried is its retaining, though friable, its original bitterness and acrimony. It is given to adults in doses of a few grains as an expectorant and diuretic; in somewhat larger as an emetic.

SPONGIÆ USTIO.

The burning of sponge.
 Lond.

Beat the sponge, after cutting it into small pieces; and, when separated from its gritty matter, burn the sponge in a close iron vessel, until it becomes black, and easily friable: then powder it in a glass or marble mortar.

Edin.

Put the sponge, cut into small pieces, and well freed from adhering gritty matters, into a close earthen vessel; place it on the fire, and let it be stirred frequently till it becomes black and friable: then reduce it to a powder in a glass or marble mortar.

This medicine, now first received in the Dispensatory, has been in use for a considerable time; and employed against scrophulous disorders, and cutaneous foulnesses, in doses of a scruple and upwards. Its virtues seem to depend upon a volatile salt, just formed, and combined with its own oil: if the sponge be distilled with a stronger heat, it yields a large proportion of that salt in its proper form. The salt is in this preparation so far extricated, that if the burnt sponge be ground in a brass mortar, it corrodes the metal, so as to contract a disagreeable taint, and sometimes an emetic quality.

Bees, earthworms, and other animal substances, have by some been prepared in the same manner, and recommended in different diseases; but as these substances fall greatly short of sponge in the quantity of volatile salt produced from them by fire, they are probably inferior also in medicinal efficacy. Of all the animal matters that have been tried, raw silk is the only one which exceeds, or equals, sponge in the produce of salt.

A good deal of address is requi-

T

site for managing this process in perfection. The sponge should be cut small, and beaten for some time in a mortar, that all the stony matters may be got out, which, compared with the weight of the sponge when prepared, will sometimes amount to a considerable quantity. The burning should be discontinued as soon as ever the matter is become thoroughly black. If the quantity put into the vessel at once be large, the outside will be sufficiently burnt before the inside is affected; and the volatile salt of the former will in part escape, before that in the latter is begun to be formed. The best method of avoiding this inconvenience, seems to be, to keep the sponge continually stirring, in such a machine as is used for the roasting of coffee.

CORNU CERVI USTIO.

The burning of hartshorn.

Lond.

Burn pieces of hartshorn until they become perfectly white; then rub them to a very fine powder.

The intention here is, totally to burn out and expel the oil, salt, and other volatile parts; so as to leave only a white insipid animal earth. For this purpose, a strong fire, and the free admission of air, are necessary. The potter's furnace was directed merely for the sake of convenience; where this is not to be had, any common furnace or stove may be made to serve. On the bottom of the grate spread some lighted charcoal, and above this lay the horns. The whole will burn vehemently: the vegetable matter is reduced to ashes; and the horns are burnt to whiteness, still retaining their original form. The horns left after the distillation of the volatile salt and oil of hartshorn, are as proper for this use as any other; that process only collecting such parts as are here dissipated in the air.

But hartshorn is not now con-

sidered as a pure earth, having been found to be a compound of calcareous earth, and phosphoric acid. It is the weakest of the animal absorbents, being soluble in acids with great difficulty; but whether it be of equal or superior use in diarrhoeas to more powerful absorbents, must be left to future experience to determine.

PULPARUM EXTRACTIO.

The extraction of pulps.

Lond.

Unripe pulpy fruits, and ripe ones if dry, are to be set in a moist place till they soften: then press the pulp through a hair sieve, afterwards boil it over a gentle fire, frequently stirring it; then evaporate the water in a water-bath saturated with sea-salt, until the pulps are of a proper consistence.

The pod of the Cassia fistularis is to be bruised; then boiling water is to be poured upon it, that the pulp may be washed out; after this the matter is to be pressed through a coarse sieve, and then through a hair sieve. This done, the watery part is to be evaporated in a water-bath saturated with salt, until the pulp is brought to a proper consistence.

The pulps of fruits that are both ripe and fresh, are to be pressed out through the sieve, without any previous boiling.

STYRACIS PURIFICATIO.

The purification of storax.

Lond.

Dissolve the storax in rectified spirit of wine, and strain the solution; afterwards reduce it to a proper consistence with a gentle heat.

The active part of storax totally dissolves in spirit of wine so as to pass through the filtre, the impurities alone being left. And as these active parts do not rise in distillation, the spirit may be again recovered, in reducing it to a pro-

per thickness. This is a much more elegant mode than straining storax, as formerly prescribed, by the means of water, and produces a more copious, and equally efficacious substance.

OPIUM PURIFICATUM.

Purified Opium.

Lond.

Take of opium, cut into small pieces, one pound; proof-spirit of wine twelve pints.

Digest the opium with a gentle heat, stirring it until it is dissolved, filter the tincture through paper, and distil it so prepared to a proper consistence.

Purified opium must be kept under two forms: *soft* for pills; and *hard*, that it may be reduced to powder.

By experiment proof-spirit has been found to be the best menstruum for opium; having dissolved nine-tenths of the crude gum; a much greater proportion than was taken up either by spirit of wine or water.

AMMONIACI PURIFICATIO.

The purification of ammoniacum.

Lond.

Boil ammoniacum, if it appears impure, in water until it softens, and press it through an hempen cloth: then set it by, that the resinous part may subside.

Evaporate the water, and towards the end of the inspissation mix resinous part with the gummy.

In the same manner *ASA FETIDA*, and the similar resinous gums, are purified.

Any gum that melts easily, as galbanum, may likewise be purified by including it in a bladder, and keeping it in boiling water, until the gum becomes soft enough to to be pressed from its impurities through a hempen cloth.

In the straining of all the gums, care should be taken, that the heat be neither too great, nor too long

continued; otherwise a considerable portion of their more active volatile matter will be lost: an inconvenience which cannot, by any care, be wholly avoided. Hence the purer tears, unstrained, are preferable, for internal use, to the strained gums; because that some of the gum-resins purified, in the common way, by solution in water, expression and evaporation, are not so easily soluble in aqueous menstrua before, as after, such depuration. The method of softening the gum in a bladder by external heat, without the addition of water, appears to be the most eligible for all those that will admit of being thus liquefied sufficiently; both as exhalation is prevented during the liquefaction; and the strained gum returns in cooling to its original consistence, without the further heat which is requisite in the other method for evaporating the water. Opium is perhaps less injured by heat than the rest of the gums, the virtues of this drug seeming to reside more in its fixed than in its volatile parts: it is nevertheless expedient, that the smell of the opium, which affords an useful mark of its genuineness, be as much as possible preserved; this, if the quantity of water were large, would be destroyed by the long evaporation which would then become necessary.

It were to be wished that the consistence to which the strained solutions are to be reduced, were determined with more precision, particularly in regard to opium, that there might be as little uncertainty as possible in its dose.

MILLEPEDARUM PRÆPARATIO.

Preparation of millepedes.

Lond. Edin.

The millepedes are to be inclosed in a coarse hempen cloth, and suspended over hot spirit of wine,

in a close vessel, till they are killed by the steam, and rendered friable.

This is a convenient way of rendering millepedes pulverable, with-

out endangering any loss of such virtues as they may possess.

The directions given by both colleges are precisely the same, and delivered in almost the same words.

CHAPTER II.

Substances extracted from vegetables by expression.

SECT. I.

EXPRESSED AND INSPISSATED JUICES.

JUICES are obtained from the succulent parts of plants, by including them, after being properly cut, bruised, &c. in a hair bag, and pressing them, betwixt wooden cheeks, in the common screw-press, as long as any liquor exudes.

The harder fruits require to be previously well beaten or ground: but herbs are to be only moderately bruised; for if these be over bruised, a large quantity of the herbaceous matter will be forced out along with the juice. Hempen or woollen bags are apt to communicate a disagreeable flavour; the threads of these likewise swell in proportion as they imbibe moisture, so as in great measure to prevent the free percolation of the juice.

The fluids thus extracted from succulent fruits, both of the acid and sweet kind — from most of the acrid herbs, as scurvy-grass and water-cresses — from the acid herbs, as sorrel and wood-sorrel — from the aperient lactescent plants, as dandelion and hawkweed — and from sundry other vegetables, contain great part of the peculiar taste and virtues of the respective subjects. The juices, on the other hand, extracted from most of the aromatic herbs, as those of mint and the fragrant Turkey balm, commonly called balm of Gilead, have scarcely any thing of the flavour of the plants, and seem to differ little from decoctions of them, made in water, boiled till the volatile odorous parts have been dissipa-

ted. Many of the odoriferous flowers, as the lily, violet, hyacinth, not only impart nothing of their fragrance to their juice, but have it totally destroyed by the previous bruising. From want of sufficient attention to these particulars, practitioners have been frequently deceived in the effects of preparations of this class: juice of mint has been often prescribed as a stomachic, though it wants those qualities by which mint itself, and its other preparations, operate in that intention.

The juices thus forcibly pressed out from plants, differ from those which flow spontaneously or from incisions; these last consisting chiefly of such fluids as are not diffused through the whole substance of the vegetable subject, but elaborated in distinct vessels, or secreted into particular receptacles. From poppy heads, slightly wounded, there issues a thick milky liquor, which dries by a moderate warmth, into opium; whilst the juice obtained from them by pressure is of a dark green colour, and far weaker virtue.

Juices, newly expressed, are generally thick, viscid, and very impure: by colature, a quantity of gross matter is separated, the juice becomes thinner, limpid, and better fitted for medicinal purposes, though as yet not entirely pure. On standing, it becomes again turbid, and apt to run into a fermentative or putrefactive state. Clarification with whites of eggs renders the juices more perfectly fine;

in a close vessel, till they are killed by the steam, and rendered friable.

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but there are few that will bear this treatment without a manifest injury to their flavour, taste, and virtue.

The most effectual method of purifying and preserving these liquors, is, to let the strained juices stand in a cool place, till they have deposited their grosser feces, and then gently pass them several times through a fine strainer till perfectly clear; when about one-fortieth part their weight of good spirit of wine may be added, and the whole suffered to stand as before: a fresh sediment will now be deposited, from which the liquor is to be poured off, strained again, and put into small bottles that have been washed with spirit and dried. A little oil is to be poured on the surface, so as very nearly to fill the bottles, and the mouths closed with leather, paper, or stopt with straw, as the flasks in which Florence wine is brought to us: this serves to keep out dust, and suffers the air, which in process of time arises from all vegetable liquors, to escape; which air would otherwise endanger the bursting of the glasses, or, being imbibed afresh, render their contents vapid and foul. The bottles are to be kept on the bottom of a good cellar or vault, placed up to the necks in sand. By this method, juices may be preserved for a year or two; and some for a much longer time.

It has already been observed, that there are great differences in juices, in regard to their being accompanied, in the expression, with the virtues of the subjects: there are equal differences in regard to their preserving those virtues, and this independently of the volatility of the active matter, or its disposition to exhale. Even the *volatile virtue of scurvy-grass* may, by the above method, be preserved almost entire in its juice for a considerable

time; while the active parts of the juice of the wild cucumber quickly separate and settle to the bottom, leaving the fluid inert. *Juices of arum root, iris root, bryony root, and sundry other vegetables*, throw down in like manner their medicinal parts to the bottom.

SUCCUS COCHLEARIE COMPOSITUS,

FORMERLY

SUCCI SCORBUTICI.

Compound juice of scurvy-grass.
Lond.

Take the juice of

Garden scurvy-grass, two pints;
Brooklime,

Water-creffes—each one pint;

Seville oranges, a pint and quarter.

Mix them together, let them stand till the feces have subsided, and then either pour the liquor off clear, or pass it through a strainer.

Edinb.

Take the juice of

Garden scurvy-grass,

Water-creffes, expressed from
fresh-gathered herbs,

Seville oranges—of each two
pounds:

Spirituos nutmeg-water, half a
pound.

Mix them together; let them stand till the feces have subsided, and pour off the clear liquor.

Both these compositions are of considerable use for the purposes expressed in the title; the orange juice is an excellent assistant to the scurvy-grass and other acrid and antiscorbutics, which, when thus mixed, have been found from experience to produce much better effects than when employed by themselves. *These juices may be taken from an ounce or two to a quarter of a pint, two or three times a day: they generally increase the urinary secretion, and sometimes introduce a laxative habit.* Preserved with the cautions above mentioned, they

will keep good for a considerable time: though, whatever care be taken, they are found to answer better when fresh; and from the difficulty of preserving them so, they have of late been very much laid aside, especially since we have been provided with more convenient and useful remedies.

INSPISSATED JUICES.

Lond.

When vegetable juices, decoctions, or infusions, are exposed to a continued heat, the fluid part gradually evaporates, carries off such volatile matter with which it was impregnated, and leaves the more fixed in one thickened mass. When this occurs from the evaporation of an expressed juice, it is called *inspissated juice*; when from watery decoctions or infusions, an *extract*; from spirituous tinctures, a *resin*, or *essential extract*; which term, *extract*, is applicable to the whole three.

They are also called *rob*, or *sapa*, when by evaporation the juices, or watery decoction, are reduced only to the consistence of oil or honey; and *balsams*, when spirituous tinctures are reduced to the same consistence.

With regard to inspissation of the juices, we are to consider what effect will be produced by the process respecting the volatility or fixity of the medicinal parts.

Plants which lose their virtue, or part of it, by being dried, will lose the same on their juices being inspissated to dryness; how gentle soever be the heat with which the operation is performed. It must likewise be observed, that the medicinal parts of some juices are kept in a state of perfect solution, by the watery fluid, so as completely to be obtained by it after the liquor has been made fine by settling, straining, or other means; while the medicinal parts of others,

not dissoluble by watery menstrua, are only diffused through the liquor, in the same manner as feculencies are, and separate along with these in standing.

There are particular points which ought to be carefully considered in forming preparations from different vegetable substances; as by improper processes the most powerful may be rendered inefficacious.

SUCCUS BACCÆ SAMBUCI SPISSATUS.

Inspissated juice of the elder-berry.

Lond.

Take of the expressed and depurated juice of the elder-berries two pints: inspissate in a water-bath saturated with sea-salt.

The college of Edinburgh, to five pounds of the ripe juice add one pound of the purest sugar, and with a gentle heat evaporate to the consistence of a pretty thick honey.

Each of these preparations keeps well; and both are possessed of aperient powers, generally promoting the natural evacuations by stool, urine, or sweat. The dose, from ʒj. or ʒij. to ʒj. or more: half an ounce diluted with water, is commonly taken at bed-time in common colds.

In the same manner may be inspissated the juice of *black currants*, *lemon*, *deadly night-shade*, *black henbane*, *strong-scented lettuce*, and of *hemlock*, gathered upon the first appearance of the flowers. And under this form the agreeable and useful acid of the two first may be preserved for a considerable length of time, in this concentrated state.

SUCCUS ACONITI SPISSATUS.

TUS.

Inspissated juice of wolf's-bane.

Edinb.

Bruise the fresh leaves, include them in an hempen bag, and strongly compress them in a press, so that they may give out their juice: let

the juice be evaporated in open vessels in a water-bath, to the consistence of a *pretty thick* honey; and towards the latter end of the process, let the juice be constantly stirred that all empyreuma may be avoided. After it has become cold, let it be put up in glazed earthen vessels, and moistened with spirits of wine.

In the same manner are prepared inspissated juices of the *solanum le thale*, or *deadly night-shade*; and the *hyoscyamus*, or *henbane*.

The active parts of these plants are obtained in a concentrated state by this process, and in a condition which admits of preparation for a considerable length of time, and in which state they are perhaps more frequently used than any other; particularly the *hyoscyamus*, which often proves a good succedaneum for opium, when opium is indicated but disagrees with the patient—though the aconite and solanum has been thought to possess greater advantage, administered in the form of powder.

SUCCUS CICUTÆ SPISSATUS.

Inspissated juice of hemlock.
Edinb.

The process is similar to that used with aconitum, except that this is ordered to be evaporated to the consistence of a *thin* honey; and when cool, as much of the powder of the dried leaves is to be added as will form it into a mass proper for pills; care being taken that the evaporation goes to that length only as to require such a quantity of the powdered leaves as will make a fifth part of the whole mass, when brought to a proper consistence.

However it is agreed, the mode of making the extract as ordered by the London college, is esteemed the most eligible; as it forms the most pure extract, and the powder

may be occasionally added.

However, great care is required in preparing this inspissated juice. Besides the precaution of gathering the plant at the particular season, on the first appearance of the flowers, and preventing the mixture of any other vegetable, the evaporation should take place as soon as possible after the expression, and therefore the juice should not be bought already expressed; for if the juice, which retains the smell of the plant, be suffered to settle until it becomes clear, it loses nearly all the specific flavour of the hemlock; the odorous principle seeming to separate, and subside with the herbaceous feculencies: and the evaporation should be *slow*; to prevent the too great dissipation of its volatile parts, upon which much of its virtues depend, by too hasty an evaporation.

That such caution in the preparation is absolutely necessary, seems to be confirmed by Dr. WITHERING'S observations, who says, "that no medicinal plant, when collected, is more apt to heat and ferment than hemlock; whence the quantity of extract is much less, and its properties greatly impaired; and that if the feculencies are thrown away, the medicine is spoiled."

Of this inspissated juice, small doses should be begun with, from two to five grains in a day to adults, and gradually augmented. Sometimes several drams have been taken in that time without producing any giddiness: but from five grains to ten or twenty grains are generally sufficient; for few constitutions will bear more, if it is properly prepared, without experiencing disagreeable effects. The plant itself may be kept dry, in strong brown paper bags; or, if powdered, in glass bottles close stopped, and so placed as to exclude the light.

Dr. STORCK has recommended the cicuta in a variety of complaints, in which he says it has been successful: he affirms, that it *removes obstructions; and their consequences; relieves rheumatic pains, though of long continuance; dissolves scirrhus tumours, both internal and external; and cures dropsies and consumptions proceeding from scirrhusities; that it often dissolves cataracts, and stops their progress, and has sometimes removed the gutta serena;—that inveterate cutaneous eruptions, scald-heads, malignant ulcers, cancers, the malignant fluor albus, gonorrhæa of long standing, obstinate remains of the venereal disease, and caries of the bones, generally yield to it—that for the most part it is necessary to continue this medicine for a considerable time before the cure be effected, or much benefit perceived from it.*

Notwithstanding which account, the trials that have been made of it in this country have not been attended with any thing like this success. However, the inspissated juice is given in a variety of complaints, which appear very obstinate; but its great efficacy, when joined with a mercurial alterative, has been more particularly observed in *scrophulous and scirrhus disorders, and in hectic complaints, arising from tubercles in their early stage. Cicuta has also been given in chin-cough, rheumatism, and nervous headache, with some success.*

Externally the powdered herb has been used, with linseed meal, or common white bread, made into a poultice with milk and water, in the proportion of one-fourth, or one-sixth, part of the herb, when applied to indurated tumors in the breast and other parts; joined with mercury, and given internally, and applied externally, it

has been successfully employed in removing obstructions of the membranous parts of the urethra, and enlargement of the prostate gland. And in some cases it is given with advantage joined with the peruvian bark.

ELATERIUM.

Lond. Edinb.

Take ripe wild cucumbers, and having very lightly pressed out the juice, pass it through a fine hair sieve into a glass vessel. After standing for some hours, the thicker part will fall to the bottom; from which the thinner is to be poured off, and what liquid matter is still left, is to be separated by filtration. The remaining thick part is to be covered with a linen cloth, and dried by gentle heat.

What happens in part in the foregoing preparation, happens in this completely, the spontaneous separation of the medicinal matter of the juice on standing for a little time: and the case is the same with the juices of several other vegetables, as those of arum, iris, and bryony roots. Preparations of this kind have been commonly called *FECULÆ*. The filtration above directed for draining off such part of the watery fluid as cannot be separated by decantation, is not the common filtration through paper, for this does not succeed here: the grosser parts of the juice, falling to the bottom, form a viscid cake upon the paper, through which the liquid cannot pass. The separation is to be attempted in another manner, so as to drain the fluid from the top. This is effected by placing one end of some moistened strips of woollen cloth, skeins of cotton, or the like, in the juice, and laying the other end over the edge of the vessel, so as to hang down lower than the surface of the

liquor. By this management the separation succeeds in perfection.

Elaeterium is a strong hydragogue cathartic, and previous to its operation excites great sickness, and sometimes severe vomiting. In some instances of stagnant ascites it has produced a complete évacua-

tion of water, where other medicines have failed. Two or three grains are in general a sufficient dose. Perhaps half a grain given for a dose and repeated every hour till it begins to operate, is the best and safest mode of exhibiting it.

S E C T. II.

EXPRESSED OILS.

EXPRESSED oils are obtained chiefly from certain seeds and kernels of fruits, by thoroughly pounding them in a stone mortar, or, where the quantities are large, grinding them in mills, and then including them in a canvas bag, which is wrapt in a hair cloth, and strongly pressed betwixt iron plates. The canvas, if employed alone, would be squeezed so close to the plates of the press as to prevent the oil from running down: by the interposition of the hair cloth, a free passage is allowed it.

SUNDRY machines have been contrived, both for grinding the subject, and pressing out the oil, in the way of business. To facilitate the expression, it is customary to warm either the plates of the press; or the subject itself after the grinding, by keeping it stirring, in a proper vessel over the fire: the oil, liquefied by the heat, separates more freely and more plentifully. *When the oil is designed for medicinal purposes, this practice is not to be allowed; for heat, especially if its degrees be sufficient to be of any considerable advantage for promoting the separation, renders the oil less soft and palatable, impresses a disagreeable flavour, and increases its disposition to grow*

rancid. Hence the colleges both of London and Edinburgh expressly require the operation to be performed without heat.

Nor are the oils to be kept in a warm place after their expression. Exposed but for a few days to a heat no greater than that of the human body, they lose their emollient quality, and become highly rancid and acrimonious. Too much care cannot be taken for preventing any tendency to this acrid irritating state, in medicines so often used for abating immoderate irritation.

So much are these oils disposed to this injurious alteration, that they frequently contract an acrimony and rancidity while contained in the original subjects. *Hence great care is requisite in the choice of the unctuous seeds and kernels, which are often met with very rancid; almonds are particularly liable to inconveniencies of this kind.*

Expressed oils are prepared for mechanic uses from sundry different subjects, as nuts, poppy-seed, hemp-seed, rape-seed, and others. Those directed for medicinal purposes in the London and Edinburgh Pharmacopœias, are,

OLEUM AMYGDALÆ.

Oil of almonds.

Lond.

Bruise fresh almonds, either sweet

or bitter, in a mortar, and then express the oil, in a press, without heat.

In the same manner may be expressed from the bruised seeds of *linseed-oil*, *oil of mustard* and *oil of castor*.—For the particulars belonging to the medical powers of which see *LINI SEMEN*, *SINAPIS*, and *RICINUS*, in the *Materia Medica*: and for the expressed oil of *bay-berries*, *mace*, *olives*, and *palm-oil*, as far as they are supposed to exert any peculiar qualities, they will be found under *LAURUS*, *MACIS*, *OLIVÆ*, and *PALMÆ*, in the same division of this work.

The oil of almonds prepared from the sweet and bitter almonds are indifferently, altogether the same. Nor are the differences of the other oils very considerable, the discriminating qualities of the subjects not residing in the oils that are thus obtained by expression: *the oil of mustard-seed is as soft, insipid, and void of pungency, as that of sweet almonds*, the pungency of the mustard remaining entire in the cake left after the expression. The several oils differ in some of their properties from one another; but in medicinal qualities they appear to be all nearly alike, and agree in one common emollient virtue. They *soften and relax the solids*, and obtund acrimonious humours: and thus become serviceable, internally, in *pains, inflammations, heat of urine, hoarseness, tickling coughs, &c.*—in *glysters*, for lubricating the intestines, and promoting the ejection of indurated feces;—and in *external applications*, for tension and rigidity of particular parts. Their common dose is half an ounce: in some cases, they are given to the quantity of three or four ounces. The most commodious forms for their exhibition we shall see hereafter, in the chapter of Emulsions.

THE OIL OF CACAO, or the *chocolate nut*, expressed from the nuts slightly toasted, and freed from their coverings, seems to have no other advantage over the chocolate as commonly made, but from being divested of the aromatics with which that is joined, and hence may be given as an article of nutrition, where the common chocolate is contra-indicated.

THE OIL OF HYOSCYAMUS, acquired in the same manner as the oil of almonds, is supposed to be possessed of the narcotic virtues of the plant, and therefore has entered the composition of some anodyne ointments and plasters: but, when the sedative power of henbane is wanted, an impregnation of olive oil with the leaves of the plant has been supposed would much better answer the purpose.

OLEUM OVI.

Egg-oil.

Boil any quantity of fresh eggs till they are hard; then take out the yolks, break them in pieces, and roast them gently in a frying-pan, till, when pressed between the fingers, they give out a certain fatness; put them, whilst warm, into a hair bag, and express the oil.

Externally applied, a paregoric and styptic power has been attributed to it; and it has been frequently applied for the relief of sore nipples, with which women who suckle children are sometimes much tormented. Administered internally, it has been thought useful in *stomach complaints, dysenteries, and disordered affections of the alimentary canal*. That this oil does possess these powers, is extremely doubtful; and it has only acquired attention from being inserted in most of the foreign pharmacopœias.

Notwithstanding the great similarity of expressed oils in general, there can be no doubt but the oils

expressed from aromatic substances, retain, for the most part, an admixture of the aromatic matter of the subject. Thus *nutmags* and *mace* yield, upon expression, an oil impregnated with the flavour of the spices; and an oil expressed from *aniseeds* has a great share of the peculiar smell of the seeds. A purgative oil also is extracted in America from the purgative seeds of the *ricinus*. It does not appear that other qualities of vegetables are communicated to their expressed oils.

The rinds of the several varieties of oranges, lemons, and citrons, yield by a kind of expression their essential oils almost pure, and nearly similar to those which are obtained from them by distillation. The essential oils, in which the fragrance and aromatic warmth of these fruits reside, are contained in numerous little vesicles, which may be distinguished by the naked eye, spread all over the surface of the peel. If the rind be cut in slices, and the slices separately doubled or bent in different parts, and squeezed between the fingers, the vesicles burst at the bending, and discharge the oil in a number of fine slender jets. A glass plate being set upright in a glass or porcelain vessel, and the slices squeezed against the plate, the little jets unite into drops upon the plate, and trickle down into the vessel beneath. But though this process affords the true native oil, in the same state wherein it existed in the subject, unaltered by fire or other agents, it is not practicable to advantage, unless where the fruit is very plentiful; as only a small part of the oil it contains can thus be extracted or collected.

The oil is more perfectly separated by rubbing the rind upon a lump of sugar. The sugar, by the inequality of its surface produces the effect of a rasp, in tearing open the oily vesicles: and in propor-

tion as the vesicles are opened, the sugar imbibes the oil. When the outward part of the lump is sufficiently moistened, it is scraped off, and the operation continued on the fresh surface. The oil thus combined with the sugar, is fit for most of the uses to which it is applied in a fluid state. Indeed the pure essential oils obtained by distillation, are often purposely mixed with sugar, to render their use the more commodious.

The oily preparations acquired by infusion and decoction should have next succeeded; but nothing more, it has been presumed, could be expected from them than from common oil itself, which has the advantage of being less offensive. The mucilaginous ingredients, marshmallow root and linseed, in the oil of *mucilages* of the former dispensatories, make no addition to the virtue of the oil; for *mucilages*, as already observed, are not soluble in oils. Experience has not discovered any such singular qualities in flowers of St. John's wort, that four ounces of them should communicate any remarkable virtue to a quart of oil. Of the other herbs, the more valuable parts are dissipated by the boiling heat: and although the remaining matter, if it were taken internally, either by itself, or dissolved in watery or spirituous liquors, might not be destitute of activity; yet it can scarcely be supposed, when combined with a large quantity of oil, to have any material effect in external applications. The whole of these oils have therefore been judiciously omitted; as the effects likely to be produced by these oils, have been thought to be more certainly and successfully answered by mixing with the expressed oil a suitable quantity either of the native resins of vegetables, or of the essential oils and resinous extracts artificially prepared from them.

CHAPTER III.

Infusions in different menstrea.

SECT. I.

INFUSIONS AND DECOCTIONS IN WATER.

WATER, the direct menstruum of gums and salts, *extracts readily the gummy and saline parts of vegetables.* Its action, however, is not limited to these; *the resinous and oily principles being, in most vegetables, so intimately blended with the gummy and saline, as to be in great part taken up along with them; some of the resinous cathartics, and most of the aromatic herbs, as well as bitters and astringents, yield to water greatest part of their smell, taste, and medicinal virtue.* Even of the pure essential oils and odorous resins of vegetables, separated from the other principles, *water imbibes a part of the flavour;* and by the artificial admixture of gummy or saline matter, *the whole substance of the oil or resin is made dissoluble in water.*

Of pure salts water dissolves only certain determinate quantities (see page 42). By applying heat, it is generally enabled to take up more than it can do in the cold, and this in proportion to the degree of heat; but as the liquor cools, this additional quantity separates, and the water retains no more than it would have dissolved without heat. *With gummy substances, on the other hand, it unites unlimitedly, dissolving more and more of them till it loses its fluidity: heat expedites the action of the water, but cannot enable it to take up more than it would do, by allowing it longer time, in the cold.* The active parts extracted from most vegetables by water, and

oils and resins made soluble in water by the artificial admixture of gum, partake of this property of pure gums, being dissoluble without saturation.

It has been imagined that vegetables in a fresh state, while their oily, resinous, and other active parts, are already blended with a watery fluid, would yield their virtues to water more freely and more plentifully, than when their native moisture has been dissipated by drying. Experience however shews, that *dry vegetables, in general, give out more than fresh ones,* water seeming to have little action upon them in their recent state. If, of two equal quantities of mint, one be infused fresh in water, and the other dried, and then infused in the like quantity of water for the same length of time; the infusion of the dry herb will be remarkably the stronger: and *the case appears to be the same in all the vegetables that have been tried.*

In all the preparations described in this chapter, it is to be understood that *the subjects must be moderately and newly dried; unless when they are expressly ordered to be taken fresh; in which case it is to be judged that their virtues are destroyed or impaired by drying.*

The native colours of many vegetables are communicated to water along with their medicinal matter: many impart a colour *different from their own:* and others, though of a

beautiful and deep colour themselves, give scarcely any to the *menstruum*. Of the first kind are the yellow and red flowers; of the second, the leaves of most plants; of the third, some of the blue flowers, as those of cyanus and larkspur. Acid liquors change the infusions of most flowers, the yellow ones excepted, to a red; and alkalies, both fixt and volatile, to a green.

From animal substances water ex-

tracts the gelatinous and nutritious parts, whence glues, jellies, broths, &c. and, along with these, it takes up principles of more activity, as the acrid matter of cantharides. It dissolves also some portion of calcined calcareous earths, both of the animal and of the mineral kingdom, but has no action on any other kind of earthy matter. — On DECOCTIONS, see Article III.

ARTICLE I. *Infusions in cold water.*

INFUSUM CARDUI.

Infusion of carduus.

Take an ounce of the dried leaves of *carduus benedictus*, and a pint of common water. Let them steep for six hours, without heat, and then filter the liquor through paper.

By this management, only the finer parts of the *carduus* are extracted, and the infusion proves an agreeable light bitter: *it sits easier on the stomach than any other medicine I know of the bitter kind*; whereas, by long continued maceration, or by the application of heat, the grosser and more ungrateful parts are taken up, and the liquor becomes nauseous, so as to provoke vomiting. I have often given the light infusion, with great benefit, in *weaknesses of the stomach*, where the common bitters did not agree. It may be flavoured at pleasure with aromatic materials; instead of pure water, a mixture thereof, with some grateful distilled spirituous water, as twelve ounces of common water and four of the spirituous water of orange peel, may be used for the *menstruum*. The little quantity of spirit contained in this compound will not considerably vary the dissolving power of the water.

Many other vegetables may be

advantageously treated in the same manner. From those which are weak in virtue, rich infusions may be obtained, by returning the liquor upon fresh quantities of the subject; the water loading itself more and more with the active parts. These loaded infusions are doubtless applicable to valuable purposes in medicine, as they contain, in a small compass, the finer, more subtile, and active principles of vegetables, in a form readily miscible with the fluids of the human body.

INFUSUM MENTHÆ.

Infusion of mint.

Take half an ounce of the dry leaves of spearmint, and a pint of simple mint-water. Steep them in a close vessel, in a warm place, for four hours, and then strain out the tincture.

The distilled water of mint is impregnated with as much of the volatile parts of the herb, as water can be made to retain by distillation. By infusion, however, it still takes up more, being equally effectual as a *menstruum* with fresh water; hence the tincture proves very rich in the virtue of the mint. This is another useful method of obtaining strong infusions from vegetables, and it may be varied at

discretion: the distilled water of one plant may be employed as a menstruum for another.

INFUSUM CORTICIS PERUVIANI,

VEL CINCHONÆ.

Infusion of Peruvian bark.

Take an ounce of Peruvian bark reduced into fine powder, and twelve ounces of water. Macerate without heat for twenty-four hours, occasionally shaking the vessel; then pour off the clear liquor, and pass it through a fine strainer.

The extraction of the virtues of Peruvian bark, with aqueous liquors, has hitherto been attempted by strong coction. But this drug, contrary to most other vegetables, has lately been observed to give out more to cold than to boiling water. In boiling, a resinous matter, containing the astringency of the bark, is hastily melted out by the heat, but not truly dissolved by the water, and hence, in cooling, it begins to separate, renders the liquor turbid, and at length settles to the bottom; whereas, by maceration in cold water, the astringent and bitter parts are gradually extracted together, and the former as well as the latter are retained by the water in a state of perfect solution. The infusion appears to be one of the best preparations of the bark for weak stomachs, and may be given in doses of two or three ounces, in intermitting fevers, and in other disorders where the corroborating virtues of bark are required.

AQUA PICEA.

Tar-water.

Take of

Tar, two pounds;

Water, one gallon.

Stir them strongly together with a wooden rod; and after standing to settle for two days, pour off the water for use.

Tar-water has been recommended to the world as a certain and safe

medicine in almost all diseases; a slow yet effectual alterative in cachexies, scurvy, chlorotic, hysterical, hypochondriacal, and other chronic complaints; and a sudden remedy in acute distempers which demand immediate relief, as pleurisy, peripneumonies, the small pox, and all kinds of fevers in general. The medicine, though certainly far inferior to the character that has been given of it, is doubtless in many cases of considerable utility; it sensibly raises the pulse; and occasions some considerable evacuations, generally by perspiration or urine, though sometimes by stool or vomit: hence it is supposed to act by increasing the vis vitæ, and enabling nature to expel the morbid humours.

We shall here insert, from the first public recommender of this liquor (bishop Berkley) some observations on the manner of using it. "Tar-water, when right, is
" not paler than French, nor deeper-coloured than Spanish white
" wine, and full as clear; if there
" be not a spirit very sensibly perceived in drinking, you may
" conclude the tar-water is not
" good. It may be drank either
" cold or warm: in colics I take
" it to be best warm. As to the
" quantity, in common chronic
" indispositions a pint a day may
" suffice, taken on an empty stomach,
" at two or four times, to wit, night
" and morning, and about two
" hours after dinner and breakfast:
" more may be taken by strong
" stomachs. But those who labour
" under great and inveterate
" maladies, must drink a greater
" quantity, at least a quart every
" twenty-four hours: all of this
" class must have much patience
" and perseverance in the use of
" this, as well as of all other medicines, which, though sure, must
" yet in the nature of things be
" slow in the cure of inveterate
" chronic disorders. In acute

“cases, fevers of all kinds, it must
 “be drank in bed, warm, and in
 “great quantity (the fever still
 “enabling the patient to drink)—
 “perhaps a pint every hour, which
 “I have known to work surprising
 “cures. But it works so quick,
 “and gives such spirits, that the
 “patients often think themselves
 “cured before the fever hath quite
 “left them.”

Infusion of tar, or tar-water, as it has been called, has lost much of its reputation—as it is pretty certain, that water can but take up the liquid of the tar, charged perhaps with a very small quantity of oily matter in the form of an acid soap; and as its virtues chiefly depend upon this acid, it would be better to separate this acid by distillation, and mix it occasionally with water.

AQUA CALCIS.

Simple lime-water.

Lond.

Take of quick-lime half a pound; boiling distilled water, twelve ounces. Mix, and set it aside in a covered vessel for an hour; then pour off the clear liquor, and keep it in a vessel closely stopped.

Edinb.

Take half a pound of fresh-burnt lime, put it into an earthen vessel, and gradually sprinkle upon it four ounces of water; keeping the vessel shut, while the lime grows hot, and falls into powder; when pour upon it twelve pounds of water, and mix them well together by stirring. As soon as the lime is settled, stir it again; always keeping the vessel shut during the ebullition, that the access of the air may be more effectually prevented: then let the water be filtered through paper, placed in a funnel close shut at its top; and keep it in very close vessels.

The reason of adding the water by degrees to the lime is, that when poured on at once, it reduces the external part to a kind of muddy substance or soft paste, which in some measure defends the internal part from being acted upon by the water. It does not appear that the different proportions of water, in the two above prescriptions, occasion any sensible difference in the strength of the product: the quick-lime is far from yielding all its soluble parts to either proportion; the remainder giving a strong impregnation to many fresh quantities of water, though not so strong as to the first. The caution of keeping the water in close-stopt vessels ought to be strictly attended to; for in open ones, the calcareous matter, dissolved in the liquor, soon begins to separate, and forms a white crust upon the surface. This crust is not of a saline nature, as some have imagined; but an insipid earth, no longer miscible with watery liquors.

The surface being the part to which the common air is applied, here the separation first takes place; and as long as the crust remains entire, the closeness of the texture so excludes the air, that the rest of the fluid remains impregnated with lime; but when by any means the pellicle is broken it soon sinks to the bottom, and exposes a new surface to the action of the air which occasions a new separation of the lime.

In this manner a succession of crusts and precipitations are formed, till the whole of the quick-lime, once soluble and caustic, is found at the bottom of the vessel in the state of mild insoluble earth, leaving the water perfectly insipid. These crusts and successive separations are owing to the absorption of fixed air, or aerial acid, from the atmosphere; and the

mild insoluble state of the precipitated matter to the same cause.

As the purity of common water can rarely be depended upon, the distilled water is much more eligible in making the lime-water.

For the medical properties of

lime-water, see *Materia Medica*, article *CALX VIVA*.

The *aqua calcis magis*, and *minus composita*, are now thrown out from both the London and Edinburgh dispensatories, as being considered of no material utility.

ARTICLE II. *Infusions in boiling Water.*

INFUSUM AMARUM.

Bitter infusion.

Edinb.

Take of

Gentian root, half an ounce;

Seville orange peel, dried, one dram;

Coriander seed, half a dram;

Proof spirit, four ounces;

Water, one pound.

Pour on the spirit first, and let it stand three hours, and then add the water; macerate without heat twelve hours, and strain it.

INFUSUM GENTIANÆ

COMPOSITUM;

formerly

INFUSUM AMARUM SIMPLEX.

Compound infusion of Gentian.

Lond.

Take of

Gentian sliced, one dram by weight.

Dried outer rind of Seville orange, one dram and a half by weight.

Outer rind of fresh lemon, half an ounce by weight.

Boiling water, twelve ounces by measure.

Macerate for one hour, and strain.

Both these liquors are very elegant and useful bitters; the latter in particular is as agreeable as can well be contrived, the peels communicating a fine flavour, which is the only addition of which the gentian stands in need.

INFUSUM CATECHU;

vulgo

INFUSUM JAPONICUM.

Take of

Extract of catechu, two drams and a half;

Cinnamon, half a dram;

Boiling water, seven ounces;

Simple syrup, one ounce;

Digest the extract and cinnamon with the water for two hours in a close-covered vessel: afterwards strain it, and add the syrup.

The infusion is an elegant cordial restringent, and may be given in doses of from one to two ounces, in those complaints specified under the article of *JAPONICA TERRA* in the *MATERIA MEDICA*.

INFUSUM AMARUM

PURGANS.

Purging bitter infusion.

Take of

Senna,

Yellow rind of lemon peel, fresh—each three drams;

Gentian root,

Yellow rind of Seville orange-peel, dry,

Lesser cardamom seeds, freed from the husks—each half a dram;

Boiling water, five ounces by measure.

Macerate them together; and when cold, strain off the liquor.

INFUSUM AMARUM

cum SENNA.

Bitter infusion with senna.

Take of

Senna, one dram;

Gentian root ;

U

Sweet fennel seeds—each half a dram;

Boiling water, a quarter of a pint.

Infuse them for four hours, and then strain the liquor.

This infusion may likewise be prepared with two, three, or more times the quantity of fenna.

Both these are useful purging bitters. The quantities here prescribed are intended for one dose: the first is the larger, and the other the smaller dose, that fenna is usually given in.

INFUSUM SENÆ SIMPLEX.

Simple infusion of fenna.

Take of

Senna, one ounce and a half by weight;

Ginger powdered, one dram by weight;

Boiling distilled water, one pint.

Macerate for one hour, in a covered vessel; and when the liquor is cold, strain.

INFUSUM SENÆ TATARI- SATUM;

formerly

INFUSUM SENÆ COMMUNE.

Tartarized infusion of fenna.

Lond.

Take of

Sena, an ounce and a half;

Crystals of tartar, two drams;

Coriander seeds, bruised, four drams;

Distilled water, one pint.

Boil the crystals of tartar in the water, until they are dissolved; then pour the water, whilst it continues boiling, upon the other ingredients.

Macerate for an hour in a covered vessel; and when cold, strain off the liquor for use.

In our former pharmacopœia, an alkaline salt was used in the infusion of fenna, instead of the acid

one here directed. The first was supposed to promote the operation of the medicine, by superadding a degree of purgative virtue of its own, and by enabling the water to extract somewhat more from the capital ingredient, than it would be capable of doing by itself; whilst acids have rather a contrary effect. Experience, however, has sufficiently shown that this infusion, and the following one with lemon juice, do not fail in their intention: and in a medicine, very nauseous to many, it is of principal consequence to prepare it so, that the lightest and least disgusting parts may be extracted. Alkaline salts increase the offensiveness of the fenna; whilst crystals of tartar considerably improve the colour of the infusion, and likewise render the taste to some persons less disagreeable. Soluble tartar should seem a good ingredient in these kinds of compositions, as it not only improves the taste, but promotes the purgative virtue of the medicine; this addition also renders the infusion less apt to gripe, or occasion flatulencies.

Both these infusions of fenna are mildly purgative to adults in the dose of one ounce, or one ounce and a half to two ounces. The nauseous flavour of the fenna is more covered in the latter;—and perhaps would be still more so by the addition of sugar.

INFUSUM SENÆ LIMONIATUM.

Infusion of fenna with lemon.

Take of

Senna, an ounce and a half;

Yellow rind of lemon peel, fresh, one ounce;

Lemon juice, one ounce by measure;

Boiling water, one pint.

Macerate them together; and when cold, strain off the infusion.

This is a very pleasant and sufficiently efficacious purge: and the most agreeable form for the exhibition of senna to such as are more than ordinarily offended with its flavour. The dose is from two ounces to four.

INFUSUM TAMARINDORUM CUM SENNA.

Infusion of tamarinds with senna.

Edinb.

Take of

Tamarinds, six drams;
Crystals of tartar;
Senna—of each one dram;
Coriander seeds, half a dram;
Red candied sugar, half an ounce;

Boiling water, eight ounces.

Macerate in a close earthen vessel, which has not been vitrified with lead; stir the liquor now and then, and after it has stood four hours, strain it. It may be also with double, triple, or a greater proportion of senna.

This *infusion*, and the *tartarized infusion of senna*, are mild and useful purges, particularly the former, which is excellently suited to delicate stomachs, at the same time that it is very well calculated for febrile and other acute diseases. Sugar used along with acids, such as tamarinds, or crystals of tartar, where the acid predominates, is found very much to improve their taste; and the combination of their acid and sweet, is found to cover the taste of the senna very effectually. The aromatic also serves the same purpose.

INFUSUM RHÆI.

Infusion of rhubarb.

Edinb.

Take of

Rhubarb, sliced, half an ounce;
Boiling water, eight ounces;
Spirituos cinnamon-water, one ounce.

Macerate the rhubarb, in a glass

vessel, with the boiling water for a night; then, having added the cinnamon water, strain the liquor.

This appears to be one of the best preparations of rhubarb when designed as a purgative; water extracting its virtue more effectually than either vinous or spirituous menstrua: in this respect rhubarb differs from most of the other vegetable cathartics.

INFUSUM ROSÆ;

formerly

TINCTURA ROSARUM.

Infusion of the rose.

Lond.

Take of

The dried red rose, half an ounce;
Vitriolic acid diluted, three drams;

Boiling water, two pints and a half;

Double refined sugar, one ounce and a half.

First pour the water upon the roses in a glass vessel; then add the acid, and macerate for half an hour; strain the liquor when cold, and add the sugar.

Edinb.

Take of

Red roses, dried, one ounce;

Vitriolic acid, one dram;

Boiling water, five pounds;

White sugar, two ounces.

Macerate the roses with the boiling water in an unglazed vessel, four hours; then, having poured on the acid, strain the liquor; add to it the sugar.

Some have directed the oil of vitriol to be dropt upon the roses before the water is put to them: but this method is certainly faulty, for such of the roses as this caustic liquor falls upon undiluted, will be burnt up by it, and have their texture destroyed. Others have made an infusion of the roses in water first, and then added the acid, from

an apprehension, that if this acid be added to the water, it would weaken its powers as a menstruum; but, whatever the acid spirit will hinder the water from extracting, it must precipitate, if added afterwards; though in this preparation the vitriolic acid bears so small a proportion to the water, that its effect, in this respect, will be very little. The infusion should be made in a glass or stone-ware vessel, rather than a glazed earthen one; for the acid will be apt to corrode the glazing of the latter.

This tincture is of an elegant red colour, and makes a very grateful addition to juleps in *hæmorrhages*, and all cases that require mild coolers and subastringents. It is sometimes taken with boluses or electuaries of the bark; and likewise makes a good gargle. The virtues of this infusion are to be ascribed chiefly, if not solely, to the vitriolic acid.

INFUSUM LINI.

Infusion of linseed.

Take of

Linseed, whole, two spoonfuls;
Liquorice, sliced, half an ounce;
Boiling water, four pints.

Let them stand in infusion by the fire for some hours, and then strain off the liquor.

An ounce of coltsfoot leaves is sometimes added to these ingredients; which addition procures this medicine the title of *INFUSUM PECTORALE*, *pectoral infusion*. Both infusions are soft, emollient, mucilaginous liquors; and as such they are directed in *defluxions of thin acrid rheums*, and *erosions of the vessels*. They are given to the quantity of a pint a day.

INFUSUM ANTISCORBUTICUM.

Antiscorbutic infusion.

Take of

Buckbean leaves, two ounces;
Curassao oranges, half an ounce;

Compound horseradish - water, four ounces;

Common water, four pints.

Let the common water, boiling, be poured on the buckbean and orange, and suffered to stand in a close vessel for a night; then strain out the liquor, and add to it the horseradish-water.

This infusion is a very useful, and not inelegant, *antiscorbutic*: buckbean appears from experience to be a very efficacious herb in this intention; the aromatic material here joined to it alleviates its ill flavour, and at the same time promotes its virtue. A quarter of a pint of the liquor may be taken three or four times a day.

INFUSUM CEPHALICUM.

Cephalic infusion.

Take of

Wild valerian root, two ounces;
Rosemary, or sage, half an ounce;

Aromatic water, four ounces;

Common water, four pints.

Let the common water be poured, boiling, on the herb and root, and suffered to stand for a night in a close vessel; then strain out the infusion, and add to it the aromatic water.

This infusion is calculated against *epileptic disorders*, and other *like affections of the nervous system*. The dose is a quarter of a pint, to be taken twice a day.

INFUSUM ALCALINUM.

Alkaline infusion.

Take of

Kali prepared, half an ounce;

Saffron, half a dram;

Liquorice-root, two ounces;

Boiling water, three pints.

Let them stand together in a warm place for eight or ten hours, and then strain out the liquor for use.

This infusion is of service in a *lensor or viscosity of the blood and*

juices, the consequence of an obstructed perspiration, and oftentimes the origin of inflammatory distempers. It attenuates thick humours, and promotes the natural secretions. It is to be taken warm, in little quantities at a time, but frequently repeated.

INFUSUM DIURETICUM.

Diuretic infusion.

Take of

Wormwood leaves, dried, half an ounce;

Kali prepared, two scruples;

Juniper water, two ounces;

Common water, twelve ounces.

Pour the common water, boiling, on the wormwood and kali; and, when grown cold, strain off the liquor, and mix with it the juniper water.

This infusion is much of the same nature with the foregoing. It is directed in the obstructions of the viscera, which frequently succeed a long continuance of bilious fevers, or frequent relapses into them; and which generally end in a dropsy, jaundice, or irregular intermittent. The quantity here prescribed is to be taken every day, at three doses, and a purgative occasionally interposed. If intermittent fevers return after the cure of the other disorders, they are then successfully treated by the bark.

Preparations of this kind are likewise of considerable use in maniacal disorders; in which, as Dr. Mead observes, evacuations by the kidneys are of greater consequence than is generally supposed; especially if the mania be of the furious

kind, and accompanied with febrile heat. Alkaline salts, given in large doses, are here the most effectual diuretics.

INFUSUM PARALYTICUM.

Paralytic infusion.

Take of

Horseradish root, shaved,

Mustard seed, bruised—each four ounces;

Boiling water, four pints.

Let them steep together, in a close vessel, for twenty-four hours.

This infusion is strongly impregnated with the pungency of the mustard seed and horseradish, which by this simple process give out the whole of their virtues. Though the medicine is designed chiefly for a stimulant in paralytic complaints, there are several other disorders in which it may be employed to good advantage; in scorbutic cases, in particular, it promises to be a remedy of great utility: it generally promotes the urinary discharge; and, if the patient be kept warm, perspiration. It is taken sometimes to half a pint, twice a day.

INFUSUM CINNAMOMI.

Infusion of cinnamon.

Take two ounces of powdered cinnamon, and two pints of boiling water. Infuse them in a close vessel, in a moderate heat, for half an hour; and then filter the liquor.

This infusion is agreeably impregnated with the flavour and warmth of the spice, and may, on many occasions, supply the place of the simple cinnamon water.

ARTICLE III. Decoctions, Fomentations, and Mucilages.

The effect of boiling differs from that of infusion in some material particulars. One of the most obvious differences is, that as the essential oils of vegetables, in which

their specific odours reside, are volatile in the heat of boiling water, they exhale in the boiling along with the watery steam, and thus are lost to the remaining decoction;

whereas both in cold and hot infusions they are preserved. Odorous substances, and those in general whose virtues depend on their volatile parts, are therefore unfit for this treatment. The soluble parts of these may, nevertheless, be united in this form with those bodies of a more fixed nature; by boiling the latter till their virtues are sufficiently extracted, and then infusing the former in this decoction.

The extraction of the virtue of the subject is usually promoted or accelerated by a boiling heat; but this rule is less general than it is commonly supposed to be. We have already observed, that Peruvian bark gives out its virtue more perfectly by cold infusion than by coction. In some cases, boiling occasions a manifest disunion of the principles of the subject. Thus, when almonds are triturated with cold water, their oil, blended with the mucilaginous or other soluble matter of the almond, unites with the water into a milky liquor called an emulsion: but on boiling them in water, the oil separates and rises to the surface; and if the most perfect emulsion be made to boil, a like separation happens.

This also appears to take place, though in a less evident manner, in boiling other sundry vegetables: thus *tobacco*, *asarum*, and *ipecacuanha*, lose their active powers by boiling; nor does it appear that this change is effected merely by the discharge of volatile parts, because it has been proved, that the distilled water of *ipecacuanha* was infinitely less emetic than the infusion from which it was distilled, and that the boiling liquor gradually assumes a black colour, indicating some kind of decomposition of parts. And this probably takes place in all vegetables whatever; though from their not producing such evident effects on the living

body as *asarum*, *ipecacuanha*, and tobacco, they cannot be so easily discovered.

It is for the abovementioned reasons that we think many materials should be infused in cold water. This however is not always absolutely necessary, and in extemporaneous practice may often be inconvenient: we have however thought it proper to point out the advantages to be expected from this more tedious, but much more complete and elegant method.

DECOCTUM CORNU CERVI;

formerly
DECOCTUM ALBUM.

The decoction of hartshorn.
Lond.

Take of

Calcined hartshorn, prepared,
two ounces;

Gum Arabic, six drams;

Water, three pints.

Boil them till only two pints remain; and then strain off the liquor, constantly stirring.

This decoction, though a much weaker absorbent than the *mistura cretacea*, is much more agreeable to most people; and is used as common drink in acute diseases attended with a looseness, and where acrimonious humours abound in the primæ viæ. The gum is added in order to render the liquor slightly glutinous, and thus enable it to sustain more of the calx; which is the ingredient that the colour, but probably not the virtue, of the medicine depends upon. Calcined hartshorn has no quality from which it seems capable either of *constringing* and *strengthening* the vessels, giving a greater degree of consistency to *thin* fluids, or obtaining *acrimonious* humours. It *blunts* and *absorbs acid juices*; but acrimony and acidity are very different: there are few (perhaps none of the acute) disorders of adults attended with the latter; and few of in-

fants are unaccompanied therewith. Some have proposed starch as an ingredient in these kinds of decoctions; a small quantity of this soft, gelatinous, farinaceous substance should seem to be greatly preferable to the earthy calx. It may be observed that the water is not enabled by the boiling to dissolve any part of the calx; and that in the decoction, the earth is only diffused in substance through the water, as it would be by agitation.

DECOCTUM ALTHÆÆ.

Decoction of marshmallow root.

Edinb.

Take of

Marshmallow root, dried, four ounces;

Raisins of the sun, stoned, two ounces;

Water, seven pounds.

Boil to five pounds; strain the liquor; and when the feces have settled, pour it off.

This is intended chiefly as an emollient to be drunk of in nephritic paroxysms; it softens and relaxes the parts, frequently relieves the pain, and procures an easy passage to the fabulous matters.

DECOCTUM JAPONICUM.

Japonic decoction.

Take of

The confectio japonica (described hereafter among the electuaries) one ounce;

Common water, a pint and a half;

Spirituos cinnamon water,

Syrup of meconium — each one ounce.

Boil the confectio in the common water, till the liquor, after straining, will amount to a pint; to which, while turbid, add the cinnamon water and the syrup.

This decoction is used, both in draughts and in glysters, as an anodyne and restraining in fluxes. The quantity here prescribed con-

tains two grains and a half of opium, exclusive of the syrup.

DECOCTUM HORDEI COMPOSITUM;

formerly

DECOCTUM PECTORALE.

Compound decoction of barley.

Lond.

Take of decoction of

Barley, two pints;

Stoned raisins,

Figs, sliced — each two ounces;

Liquorice, cut and bruised, half an ounce;

Water, four pints.

Boil to two pints, and strain.

Edinb.

Take of

Stoned raisins of the sun,

Barley — each one ounce;

Fat figs, in number four;

Florentine orris root,

Liquorice,

Coltsfoot flowers — each half an ounce;

Water, six pints.

Boil the water with the raisins, barley, and figs, till only four pints remain; adding, towards the end, the other ingredients; then strain out the liquor for use.

Both these decoctions are useful *soft pectorals*; and very agreeable to the palate, particularly the first. They are good auxiliaries in *sharp defluxions on the breast and lungs*, and have sometimes done service by themselves. They may be drunk at pleasure, and employed for the same purposes as the *decoctum althææ*.

DECOCTUM HORDEI;

formerly

AQUA HORDEATA;

Decoction of barley.

Lond.

Take of

Pearl barley, two ounces;

Distilled water, four pints.

First wash the barley from the impurities with cold water; then

boil it a little with about half a pint of fresh water. Throw away this; then add the distilled water boiling; and boil it again till half the water is wasted; then strain. — The only difference betwixt this and that of the Edinburgh college, is the addition of one pint more water, and not distilled.

This liquor is to be drunk freely, as a diluter, in fevers and other disorders. Hence it is of consequence that it should be prepared so as to be as elegant and agreeable as possible; for this reason, it was inserted in the Pharmacopœia, and the several circumstances which contribute to its elegance set down; if any one of them be omitted, the beverage will be less grateful. However trivial medicines of this class may appear to be, they are of greater importance, in the cure of acute diseases, than many more laborious preparations.

DECOCTUM LIGNORUM.

*Decoction of the woods.
Edinb.*

Take of

Guaiacum saw-dust, three ounces;
Raisins of the sun, stoned, two ounces;
Sassafras wood, shaved,
Liquorice, sliced — each an ounce;
Water, ten pounds.

Boil the guaiacum and raisins with the water over a gentle fire to the consumption of one half: adding, towards the end, the sassafras and liquorice. Strain out the liquor, and, having suffered it to rest for some time, pour off the clear from the feces.

This decoction is very well contrived, and, if its use be duly continued, will do great service in some cutaneous diseases, foulness of

the blood and juices, and some disorders of the breast; particularly in cold phlegmatic habits. It may be taken by itself, in the quantity of a quarter of a pint, two or three times a day, or used as an assistant in a course of mercurial or antimonial alteratives; the patient in either case keeping warm, in order to promote the operation of the medicine.

DECOCTUM ANTIHECTICUM.

Antihectic decoction.

Take of

Comfrey root,
Eryngo root, each half an ounce;
Conserve of roses, two ounces;
Dulcified spirit of vitriol, forty drops;
Water, three pints.

Boil the water with the roots and the conserve, till one pint is wasted; then strain off the remaining liquor, and add to it the dulcified spirit.

This decoction is usually given in hectic cases, where thin acrimonious humours abound, and in beginning consumptions. The dose is a quarter of a pint, to be taken two or three times a day.

DECOCTUM ANTIFEBRILE.

Antifebrile decoction.

Take of

Virginian snake-root, bruised;
Peruvian bark, in powder—each three drams;
Water, one pint.

Boil them to half a pint; and having strained off the liquor, mix with it, of

Spirituos cinnamon water, an ounce and a half;
Syrup of clove july-flowers, two drams.

In the putrid malignant fever, arising from foul air in crowded hospitals and jails, this medicine has been given with remarkable success. In the low state of this dangerous disease, when the pulse,

before quick, begins to sink, the stupor to increase, and petechiæ to appear; it promises to be a very useful remedy for supporting the *vis vitæ*, promoting a critical diaphoresis, and correcting the putrid humours. Four spoonfuls of the decoction are to be taken every four or six hours; and moderate quantities of wine or cordial boluses, with volatile salts, interposed at proper intervals.

DECOCTUM FEBRIFUGUM.

A febrifuge decoction.

Take of

Camomile flowers, dried, two ounces;

Kali prepared, two drams;

Water, three pints.

Boil the water with the camomile flowers, till one pint of the liquor be wasted; then strain out the remaining decoction, and dissolve in it the alkaline salt.

In a *thick viscid state of the blood and juices, and obstructions of the abdominal viscera*, a quarter of a pint of the decoction, taken three or four times a day, has sometimes removed intermittent fevers, after the Peruvian bark had been tried in vain. It is nearly similar to the alkaline and diuretic infusions described above.

APOZEMA APERIENS.

Aperient apozem.

Take of

Rhubarb,

Madder—each three drams;

Kali, two drams;

Water, three pints.

Boil them together for an hour, and having strained out the decoction, add to it three ounces of syrup of ginger.

This promises to be a very powerful aperient and attenuating medicine, of great service in *icterical and hydropic cases*. The dose is three ounces, which may be repeated thrice a day,

DECOCTUM ASTRINGENS.

Astringent decoction.

Take of

Tormentil root, one ounce;

Cinnamon, three drams;

Pomegranate peel,

Plantane leaves—each half an ounce;

Syrup of dry roses, one ounce;

Water, three pints.

Boil the water with the tormentil, granate peel, and plantane, till one pint be wasted, adding the cinnamon towards the end: then strain off the decoction, and mix with it the syrup.

The title of this preparation sufficiently expresses its virtues. The dose, in fluxes where the morbid matter has been evacuated, and astringency is the only indication, is from one to four ounces, three or four times a day.

DECOCTUM BARDANÆ.

Decoction of burdock.

Take of

Burdock roots, two ounces;

Vitriolated tartar, one dram;

Water, three pints.

Boil the water with the roots, so long, that the liquor, when strained, may amount only to a quart; to which add the vitriolated tartar.

This decoction is drunk to the quantity of a pint a day, as a *mild aperient, diuretic, and sweetener*, in *scorbutic and rheumatic complaints*.

DECOCTUM HÆMATOXYLI seu CAMPECHENSE.

Decoction of logwood.

Take of

Shavings of logwood, three ounces;

Cinnamon, two drams;

Water, four pints.

Boil the water with the logwood till half the liquor be wasted, adding the cinnamon towards the end of the boiling; then strain out the decoction for use.

This is an agreeable *mild restringent*, in *diarrhoeas* and *other fluxes*, where stronger astringents would be improper or unsafe. It is given in the hospitals in doses of a quarter of a pint, three or four times a day. It generally tinges the stools red, which has occasioned some to be alarmed, as if the colour proceeded from a discharge of blood. The patient therefore is to be cautioned against any surprise on that account.

DECOCTUM DIURETICUM.

Diuretic decoction.

Take of

1.

Parsley or fennel roots, one ounce;

Wild carrot seeds, three drams;
Pellitory of the wall, half an ounce;

Raisins, two ounces;

Nitre, one dram;

Water, three pints.

Boil the water with the roots, seeds, pellitory, and raisins, so long, that there may be only two pints of liquor after straining; in which dissolve the nitre.

Take of

2.

Grass roots, two ounces;

Sorrel or wood-sorrel leaves, one handful;

Tamarinds, one ounce and a half;

Nitre, two drams;

Barley-water, three pints.

Boil the roots in the barley-water, till one pint of the liquor be wasted, adding towards the end the sorrel, tamarinds, and nitre: then strain out the apozem for use.

Take of

3.

Marshmallow roots, fresh, one pound;

Fennel roots, half a pound;

Nitre, half an ounce;

Water, one gallon.

Boil the water with the roots, till one-fourth of the liquor be wasted; then strain off the remain-

ing decoction, and dissolve in it the nitre.

These cooling aperient liquors are used, like the nephritic decoction already described, as common drink for *promoting urine in nephritic diseases*. They may be taken with safety, and often with good effect, in inflammatory cases, where the hot stimulating diuretics would be manifestly prejudicial.

DECOCTUM CINCHONÆ.

Decoction of Peruvian bark.
Lond.

Take of

Peruvian bark, in powder, one ounce;

Water, one pint and three ounces.

Boil them together for ten minutes in a covered vessel, and strain the liquor whilst hot.

The propriety of boiling the bark in a close vessel, and for so short a time, to those who have observed the peculiar odour exhaled, added to what Beaumé has said of its decomposition and destruction by long boiling, will appear evident.

This decoction should be passed only through a coarse strainer, and drunk whilst turbid: if suffered to stand till clear, the more efficacious parts of the bark will subside. We have formerly observed, that the virtues of this drug consist chiefly in its resinous substance, which, though it may be totally melted out by the heat of boiling water, remains only partially suspended in that menstruum.

DECOCTUM GEOFFRÆÆ.

Decoction of the cabbage-bark-tree.
Edin.

DECOCTUM MEZEREL.

Decoction of spurge olive.
Edin.

See GEOFFRÆA and MEZEREM, in the *Materia Medica*.

DECOCTUM HELLEBORI
ALBI.

Decoction of white hellebore.
Lond.

Take of

White hellebore, powdered, one ounce;

Distilled water, two pints;

Rectified spirit of wine, two ounces by weight.

Boil the hellebore in the water to a pint; and when the liquor is cold and strained, add the spirit.

In *defædations of the skin*, particularly the *tinea capitis*, it is considered an efficacious remedy; but where the incrustations are entirely removed, leaving a tender skin, the solution should be diluted.

DECOCTUM SARSAPARILLÆ.

Decoction of sarsaparilla.
Lond.

Take of

Sarsaparilla, sliced, six ounces;

Distilled water, eight pints.

Macerate the sarsaparilla with a heat of about 195°; then take it out and bruise it, and again macerate in the liquor for two hours. Then boil the liquor to four pints, press it out, and strain.

By this process the medical powers of the sarsaparilla are fully extracted: for which see *Materia Medica*, article SARSAPARILLA; and its diaphoretic effect is said to be obtained more readily when it is exhibited in form of decoction, than under any other. When given in venereal complaints after mercury has failed, two pints, in divided doses, has been given every twenty-four hours.

DECOCTUM SARSAPARILLÆ COMPOSITUM.

Compound decoction of sarsaparilla.
Lond.

Take of

Sarsaparilla, cut and bruised, six ounces;

Bark of saffrafras root,

Shavings of guaiacum,

Liquorice, bruised — each one ounce;

Bark of the root of mezereon, three drams;

Distilled water, ten pints.

Macerate with a gentle heat for six hours, then boil down to five pints, and towards the end of the boiling add the bark of the root of mezereon; and strain the liquor.

This decoction is given from four to eight ounces four times a day, in venereal nodes, &c. See *Materia Medica*, article MEZEREI RADICIS CORTEX.—A medicine which had a considerable sale under the name of the *Lisbon Diet-Drink*, is said to be a decoction of three ounces of sarsaparilla, half an ounce of mezereon, and two ounces of crude antimony, with liquorice, &c. boiled in ten pints to five of water. The efficacy of this medicine chiefly, it is supposed, depends upon the mezereon; and it is thought every advantage may be obtained from a simple decoction of guaiacum, bardana, or althæa, impregnated in the manner above described with the mezereon.

DECOCTUM SENEKÆ.

Decoction of seneka.

Take of

Seneka, rattle-snake root, one ounce;

Water, two pounds.

Boil to one pound, and strain.

The virtues of this decoction will be easily understood by those of the root from which it is prepared. See *Materia Medica*, article SENEKA. The dose, in *hydropic cases*, and *rheumatic or arthritic complaints*, is two ounces, to be repeated three or four times a day, according to its effect.

DECOCTUM CATECHU TERRÆ JAPONICÆ.

Decoction of Japan earth.

Take of

Japan earth, two drams;

Spiritibus cinnamon water,
Syrup of quinces — each two
ounces;

Common water, one pint.

Boil the common water with the
Japan earth, till about one-fourth
of the liquor be wasted; then
suffer the decoction to settle, and
having poured off the clear part,
add to it the spirituous water and
the syrup.

This decoction is a very agree-
able and useful medicine in *fluxes*
that are *not critical* or *symptomatic*,
and in a *weak lax state* of the in-
testines. A spoonful or two may
be taken every hour, or oftener:
thus managed, it produces much
better effects than if larger doses be
given at once.

DECOCTUM PRO FOMENTO,

formerly

FOTUS COMMUNIS.

Decoction for fomentations.

Lond.

Take of

Abrotanum leaves,
Sea wormwood tops,
Camomile flowers — each, dried,
one ounce;
Bay leaves, dried, half an ounce;
Water, six pints.

Boil them a little, and strain.

It is left to the choice of the
apothecary to take either the male
or female *abrotanum*, that is southern-
wood, or lavender-cotton: which,
though differing from one another
in some respects, may be looked
upon as similar with regard to the
purposes for which this composition
is intended: nor indeed can either
of them give much assistance to
camomile flowers and wormwood.
The use of this decoction is ex-
pressed in its title. Spirit of wine,
which is commonly added in fo-
mentations, is left to be directed by
the prescriber, in such quantity as
particular cases may require.

DECOCTUM COMMUNE pro CLYSTERE.

The common decoction for glysters.
Lond.

Take of

Mallow leaves, dried, one ounce;
Camomile flowers, dried,
Sweet fennel seeds — each half
an ounce;
Water, one pint.

Boil them together, and strain out
the decoction for use.

The title of this decoction suf-
ficiently expresses its use, as the
basis of glysters. The ingredients
should be very lightly boiled, at
least the *camomile flowers* and *fennel seeds* not put in till towards the
end, a part of the virtue of these
being soon lost by boiling.

The *Decoction pro enemate* of the
present London Pharmacopœia om-
mits the fennel seeds.

DECOCTUM CHAMCEMELI,

vulgo

DECOCTUM COMMUNE.

Decoction of camomile.

Edinb.

Take of

Camomile flowers, one ounce;
Coriander seed, half an ounce;
Water, two quarts.

Make them just boil, and then
strain out the liquor. The vir-
tues of the ingredients may be
sufficiently extracted also, by in-
fusing them for some hours in
the boiling water.

This decoction is intended to an-
swer the purposes of both the fore-
going. It is less loaded with the
ingredients than either, but not
perhaps for that reason the less
useful.

DECOCTUM ULMI.

Decoction of elm.

Lond.

Take of

Fresh elm, the inner bark, bruil-
ed, four ounces;

Distilled water, four pints.

Boil to two pints, and strain.

This is given, in cutaneous erup-
tions, in doses of from four to

eight ounces twice a day. For its medical virtues, in other complaints also, see *Materia Medica*, article *ULMI CORTEX INTERIOR*.

FOTUS ANODYNUS.

Anodyne fomentation.

Take of

Garden poppy heads, one ounce;
Elder flowers, half an ounce;
Water, three pints.

Boil them till one pint be wasted, and then strain out the liquor for use.

This fomentation is prescribed for *tumefied and inflamed parts*, to abate the inflammation and pain. Whether the opiate matter in the poppy heads contribute much to this intention, may be questioned; as the effects of the composition may be attributed perhaps more to the warm fluid softening and relaxing the skin, than to the particular qualities of the matters with which it is impregnated.

FOTUS AROMATICUS.

Aromatic fomentation.

Take of

Cloves,
Mace — each one dram;
Red wine, one pint.

Boil them a little, and strain off the liquor.

This preparation is intended not only as a mere topical application for external complaints, but likewise for relieving the internal parts. The pains of the bowels which accompany dysenteries and diarrhoeas, flatulent colics, uneasiness at the stomach, and reachings to vomit, are frequently abated by fomenting the abdomen and region of the stomach with the warm liquor.

FOTUS ROBORANS.

Strengthening fomentation.

Take of

Oak bark, one ounce;
Granate peel, half an ounce;
Alum, two drams;

Smith's forge water (that is, water in which red-hot iron has been several times quenched) three pints.

Boil the water, with the oak bark and granate peel, to the consumption of one-third; then strain the remaining decoction, and dissolve in it the alum.

This is a strong astringent liquor, in which intention it is directed both as a fomentation for *strengthening relaxed parts*, and as an injection in the *fluor albus*.

JUS VIPERINUM.

Viper-broth.

Take the middle-sized viper, freed from the head, skin, and intestines; and two pints of water. Boil them to a pint and a half; then remove the vessel from the fire, and, when the liquor is grown cold, let the fat, which congeals upon the surface, if the viper was fresh, be taken off. Into this broth, whilst warm, put a pullet of a moderate size, drawn and freed from the skin and all the fat, but with the flesh intire. Set the vessel on the fire again, that the liquor may boil; then remove it from the fire, take out the chicken, and immediately chop its flesh into little pieces: put these into the liquor again, set it over the fire, and as soon as it boils up, pour out the broth, first carefully taking off the scum.

Here all the circumstances subservient to the perfection of the broth, are carefully set down: and even plain chicken-broth, for the use of the sick, ought to be made in a similar manner.

This seems to be one of the best preparations of the viper; all the benefit that can be expected from that animal being by this means there obtained. It is very nutritious and restorative food: continued for a length of time, it has sometimes

done service in *leprous* and *other ob-
stinate cutaneous diseases*. The dried
flesh of the vipers, brought from
abroad, is not at all superior to the
fresh vipers of our own country.
The wines and tincture of the ani-
mal, probably, have little virtue.
The volatile salt, however strong-
ly recommended by some, does
not appear to differ from that
producible from every animal sub-
stance.

MUCILAGO AMYLI.

Mucilage of Starch.

Lond. Edinb.

Take of

Starch, three drams;

Distilled water, one pint.

Rub the starch, by degrees adding
the distilled water, and then boil
a little. The college of Edin-
burgh order four drams of starch
to a pint.

MUCILAGO GUMMI ARA- BICI.

Mucilage of gum arabic.

Lond.

Take of

Gum arabic, four ounces;

Boiling distilled water, eight
ounces by measure.

Rub the gum with the water until
it is dissolved.

Edinb.

Take of

Gum arabic, in powder;

Boiling water — each equal
weights.

Digest, and frequently stir them, till
the gum is dissolved; then strain
it through linen to clear it from
impurities.

This mucilage is very useful in
many operations in pharmacy, par-
ticularly for uniting oleaginous and
aqueous substances together. It is
also a good demulcent, and may be
given largely where such remedies
are wanted.

MUCILAGO GUMMI TRAG- ACANTHÆ.

Mucilage of gum tragacanth.

Lond.

Take of

Tragacanth, powdered, half an
ounce;

Distilled water, ten ounces.

Macerate with a gentle heat until
the tragacanth is dissolved.

Edinb.

Take of

Gum tragacanth, powdered, one
ounce.

Boiling water, eight ounces.

Macerate for twenty-four hours;
then mix, diligently rubbing
them that the gum may be dis-
solved, and press the mucilage
through a linen cloth.

The preference is given to this
mucilage in the formation of tro-
ches, and such like preparations,
because the gum is more adhesive
than the bases of the foregoing mu-
cilages; and it is also preferable to
them where much tenacity is re-
quired, as in the suspension of
mercury and other ponderous bo-
dies.

MUCILAGO SEMINUM CY- DONII MALI.

Mucilage of quince seeds.

Lond.

Take of

Quince seeds, one dram;

Water, eight ounces by measure.

Boil them over a slow fire for ten mi-
nutes; then strain through linen.

This is a pleasant soft mucilage,
of a somewhat sweetish taste, and
a light agreeable smell: in these
respects, and in its easy solubility
in water, it differs from the muci-
lage of gum tragacanth, to which
some have supposed it similar. It
has another difference, to its disad-
vantage, being apt to grow mouldy
in keeping.

GELATINA CORNU CERVI.

Jelly of hartshorn.

Take of

Hartshorn shavings, half a pound;

Water, three quarts;

White sugar, six ounces;

Mountain wine, a quarter of a pint;
Orange (or lemon) juice, one ounce.

Boil the hartshorn with the water by a gentle heat in a glazed

earthen vessel, till two parts are wasted; strain out the remaining liquor, add to it the other ingredients, and boil the whole over a gentle fire to the consistence of a soft jelly.

S E C T. II.

WHEYS.

SERUM SOLUTIVUM.

Laxative whey.

TAKE of

Damask rose buds, fresh,
one ounce;

Whey, two pints.

Steep them together for a night, and then strain out the whey for use.

Whey, thus impregnated with the virtues of the damask rose, operates very gently by stool, and for this purpose is held by some in great esteem. Its action may be quickened, and its taste rendered more agreeable, by the addition of a suitable proportion of crystals of tartar.

SERUM SINAPEOS.

Mustard whey.

Take of

Mustard seed, bruised, three spoonfuls;

Cows milk, two pints.

Set the milk over the fire to boil, and add to it the mustard seed; that a curd may be formed, from which the whey is to be carefully separated.

This is not an inelegant form for the exhibition of mustard seed; its pungency, and medicinal virtues depending thereon, being in great measure communicated to the whey.

SERUM ALUMINOSUM.

Alum whey.

Lond.

Take of

Cows milk, one pint;

Alum, in powder, two drams.

Boil them till the milk be curdled, and then carefully separate the whey.

This medicine is a strong, though not very grateful, *astringent*. It is given in *immoderate uterine fluxes*, and sometimes in the *diabetes*, in which last intention it is recommended by Dr. Mead. The dose is a quarter of a pint three or four times a day. It has been recommended also in *intermittent fevers*, the quantity above prescribed to be taken before the approach of a fit, divided into different doses; but, in this disorder, great caution is requisite in the use of so strong an *astringent*.

SERUM SCORBUTICUM.

Scorbutic whey.

Lond.

Take of

Cows milk, one pint;

Scorbutic juices, a quarter of a pint.

Boil them till the milk is curdled, and then carefully separate the whey.

This whey may be used as common drink in scorbutic cases: the quantity above directed, at least,

ought to be taken every day, if any considerable effect be expected from it.

SECT. III.

VINEGARS.

VINEGAR extracts the virtues of several medicinal substances in tolerable perfection; but at the same time its acidity makes a notable alteration in them, or superadds virtue of a different kind; and hence it is more rarely employed in this intention, than purely aqueous or spirituous menstrua. Some drugs, however, vinegar, for particular purposes, excellently assists, or coincides with, as squills, garlic, ammoniacum, and others; and, in many cases where this acid is itself principally depended on, it may be advantageously impregnated with the flavour of certain vegetables; most of the odoriferous flowers impart to it their fragrance, together with a fine purplish or red colour; violets, for instance, if fresh parcels of them be infused in vinegar in the cold for a little time, communicate to the liquor a pleasant flavour, and deep purplish red colour. Vinegar, like other acids, added to watery infusions or decoctions, generally precipitates a part of what the water had dissolved.

ACETUM COLCHICI.

Vinegar of colchicum, or meadow-saffron.

Take of

The recent root of colchicum, cut into slices, one ounce;

Vinegar, one pound.

Macerate with a gentle heat for

two days; then, after slight expression, strain.

This is seldom kept in the shops, and only prepared in common for forming the syrup or oxymel which bear its name; though we should suppose that in this form it might be employed with advantage.

ACETUM ROSACEUM.

Vinegar of Roses.

Take of

Red roses dried, one pound;

Strong vinegar, one gallon.

Expose them to the sun in a close vessel, for forty days; and then strain off the liquor.

This is scarce otherwise made use of than for embrocating the head and temples in some kinds of head-ach, &c. in which it has now and then been of service.—It has also been used in certain cases of ophthalmia; but, in general, it requires dilution before application to that delicate organ.

ACETUM SCILLÆ.

Vinegar of squills.

Lond.

Take of

Fresh-dried squills, one pound;

Vinegar, six pints;

Proof spirit of wine, half a pint.

Macerate the squills in the vinegar with a gentle heat, in a glass vessel, for four and twenty hours; press out the liquor, and set it by till the feces have subsided; then pour it off, and add spirit.

It should seem most convenient to add the spirit before the vinegar is decanted; for by these means, the purification is accelerated and rendered more perfect, and the liquor prevented from growing foul a second time, which it is apt to do upon the affusion of the spirit, however carefully it may have been depurated before.

Edinb.

Take of

The root of dried squills, two ounces;

Distilled vinegar, two pounds and a half;

Rectified spirit of wine, three ounces.

Macerate the squills with the vinegar eight days, and express the vinegar, to which add the spirit; and when the feces are subsided, pour off the liquor.

Vinegar of squills is a medicine of great antiquity. We find in a treatise attributed to Galen, an account of its preparation, and of many particular virtues then ascribed to it. It is a *very powerful stimulant, aperient, and attenuant of tenacious juices*: and hence is frequently used, with success, in disorders of the breast occasioned by a load of thick viscid phlegm; for promoting urine in hydropic cases, &c. The dose of this medicine is from a dram to half an ounce; where crudities abound in the first passages, it may be given at first in a larger dose, to evacuate them by vomit. It is most conveniently exhibited along with cinnamon or other agreeable aromatic waters, which prevent the nausea it would otherwise, even in small doses, be apt to occasion.

ACETUM PROPHYLACTICUM.

Prophylactic vinegar.

Paris.

Take of

Fresh tops of common wormwood,

Roman wormwood,

Rosemary,

Sage,

Mint,

Rue—each one ounce and a half;

Lavender flowers, dried, two ounces;

Garlick,

Calamus aromaticus,

Cinnamon,

Cloves,

Nutmegs—each two drams;

Strong vinegar, eight pints.

Digest them, by the heat of the sun or a sand-bath, in a matrafs closely stopp'd, for twelve days; then strongly press out and strain the liquor; and having afterwards filtered it, add half an ounce of camphor dissolved in spirit of wine.

This composition is designed, as its title expresses, for an antipestilential. It is said that during the plague at Marseilles four persons, by the use of this preservative, attended, unhurt, multitudes of those who were infected; that under colour of those services they robbed both the sick and the dead; and that one of them being afterwards apprehended, saved himself from the gallows by discovering the remedy. The preparation is hence called *Vinaigre des quatre voleurs*, the vinegar of the four thieves. It is not to be doubted, that vinegar impregnated with antiseptic vegetables, will contribute greatly to prevent the effects of contagious air.

The following will answer all the purposes of this composition, and is much more elegant.

ACETUM AROMATICUM.

Aromatic vinegar.

Take the tops of rosemary,

Leaves of sage,—of each four ounces;

Flowers of lavender, two ounces;

Cloves, two drams;

Vinegar, eight pounds.

X

Macerate for four hours, express the liquor, and strain it.

ACETUM THERIACALE.

Treacle-vinegar.

Edinb.

Take of

Edinburgh theriaca, described hereafter among the electuaries, one pound ;

Strong vinegar, four pints.

Digest them together, in a very gentle heat for three days ; and then strain out the vinegar for use.

This medicine has been greatly celebrated in acute and contagious diseases, as a sudorific and alexipharmic. Some have chosen to employ the vinegar as a vehicle, rather than as a menstruum, for the theriaca ; in either case, it is indisputably, for sundry purposes, an useful addition. To half an ounce by measure of the composition here prescribed, there goes somewhat more than half a grain of opium ; though it does not appear that the medicine has all the effect which might be expected from that article.

ACETUM LITHARGYRITIS.

Vinegar of litharge.

Edinb.

Take of

Litharge, trituated, half a pound ;

Strong vinegar, two pounds.

Digest them together, frequently stirring the mixture with a wooden rod, till the colour of blue be not changed by the vinegar ; preserve for use the clear liquor which is above the sediment.

This liquor is of the same nature with solutions of *Cerussa acetata*, of which hereafter. It is only used externally, as a cosmetic, against cutaneous eruptions, redness, inflammations, &c. But even here it is thought to be not void of danger ; and it has been alieged that there are examples of its continued use having occasioned sundry ill consequences. Of this, however, there seems to be much doubt ; as the London college have received a similar composition, differing only in the proportions, into their Pharmacopœia.

SECT. IV.

MEDICATED WINES.

THE original intention of medicated wines was, that medicines, which were to be continued for a length of time, might be taken in the most familiar and agreeable form ; by these means, a course of remedies was complied with, notwithstanding the repugnance and aversion which the sick often manifest to those directly furnished from the shops : and hence the inferior sort of people had their medicated ales. Never-

theless, as vinous liquors excellently extract the virtues of several simples, and are not ill fitted for keeping, they have been employed as officinal menstrua also, and substances of the greatest efficacy are trusted in this form. As compounds of water and inflammable spirit, they take up such parts of vegetables and animals as are soluble in those liquors ; though most of them abound at the same time with a mucilaginous or viscous

substance, which renders them less effectual menstrua than purer mixtures of water and spirit. They contain likewise a subtil acid, which somewhat further obstructs their action on certain vegetable and animal matters, but enables them, in proportion to its quantity, to dissolve some bodies of the metallic kind, and thus impregnate themselves with the corroborating virtues of steel, the alterative and emetic powers of antimony, and the noxious qualities of lead.

To all the medicated wines, after they have been strained, you may add about one-twentieth of their quantity of proof spirit, to preserve them from fermentation. They may be conveniently kept in the same kind of glass bottles that wines generally are for common uses, which should likewise be corked with the same care.

VINUM ALOES.

Wine of aloes. *Lond.*

Take of

Socotorine aloes, eight ounces;
White canella, two ounces;
Spanish white wine, six pints;
Proof spirit of wine, two pints.

Powder the aloes and canella separately; mix them, and pour on the wine; digest for fourteen days, now and then shaking them; and afterwards strain. It will be proper to mix a little clean white sand with the powder, to prevent the moistened aloes from sticking together.

VINUM ALOETICUM;

vulgo

TINCTURA SACRA.

Aloetic wine, or Sacred tincture. *Edin.*

Take of

Socotorine aloes, one ounce;
Lesser cardamom seeds,
Ginger,—each one dram;
Spanish white wine, two pounds.

Digest for seven days, stirring it

now and then; afterwards strain.

Both these have been long in use, not only as cathartics for cleansing the *primæ viæ* in doses, from six drams to an ounce and an half, or more, in languid phlegmatic habits; but for stimulating the solids, warming the habit, promoting the catamenia and hæmorrhoidal flux; and by giving them in small doses at proper intervals, they produce excellent effects as alterants; proving at length purgative, and relieving costiveness for a longer continuance than any other medicine.

VINUM AMARUM,

five

GENTIANÆ COMPOSITUM.

Bitter wine. *Edinb.*

Take of

Gentian root, half an ounce;
Peruvian bark, one ounce;
Seville orange-peel, dried, two drams;
Canella alba, one dram;
Proof spirit, four ounces;
Spanish white wine, two pounds and a half.

First pour on the spirit, and after twenty-four hours add the wine; then macerate for three days, and strain.

This is a very useful and elegant stomachic medicine, as the wine is fully capable of extracting all the virtues of the different ingredients.

VINUM ANTIMONIALE.

Antimonial Wine. *Lond.*

Take of

Vitrified antimony, powdered, one ounce;
Spanish white wine, a pint and a half.

Digest for twelve days, frequently straining the wine through paper.

 Edinb.

Take of

Glass of antimony, powdered, one ounce;

X 2

Spanish white wine, fifteen ounces.

Macerate for three days, stirring them now and then; and afterwards strain the liquor through paper.

However carefully the settling and decantation be performed, the filtration of the wine through paper appears to be necessary, lest some of the finer parts of the glass should chance to remain suspended in substance. It is not here, as in most other wines and tinctures, where the matter left undissolved by the menstruum is of little consequence: the antimonial glass, after the action of the wine, continues as virulent as ever, and capable of impregnating fresh parcels of the liquor as strongly as the first, and this, in appearance, inexhaustibly; yet, after thirty repeated infusions, it has been found scarce sensibly diminished in weight.

The antimonial wine possesses the whole virtues of that mineral, and may be so dosed and managed, as to perform all that can be effected by any antimonial preparation: with this advantage, that, as the active part of the antimony is here already dissolved and rendered miscible with the animal fluids, its operation is more certain. Given from ten to fifty or sixty drops, it acts generally as an alterative and diaphoretic; in larger doses, as a diuretic and cathartic: whilst three or four drams prove for the most part violently emetic. It has been chiefly used in this last intention, in some maniacal and apoplectic cases: and hence gained the name of emetic wine.

VINUM ANTIMONII TARTARISATI.

Wine of tartarised antimony.

Lond.

Take of

Tartarised antimony, two scruples;

Boiling distilled water, two ounces by measure;

Spanish white wine, eight ounces. Dissolve the tartarised antimony in boiling water, and then add the wine.

Here appears a very considerable difference in the proportion of the active ingredients in each of these last compositions. In that of the London college, each ounce of the menstruum contains four grains. Of the Edinburgh, the same quantity of the menstruum only two. Hence this should, in prescribing, be attended to; for one ounce of the Edinburgh wine may be employed for procuring full vomiting, whilst the same quantity of the London would be much too powerful, and might produce unpleasant effects.

The *vinum antimonii*, and the *vinum antimonii tartarificati*, are often substituted one for the other; but the latter will, in many very common cases of extemporaneous prescription, be decomposed, where the first would not be liable to any such objection.

* VINUM E TARTARO ANTIMONIALI.

Emetic tartar-wine.

Edinb.

This is made by dissolving twenty-four grains of emetic tartar in one pound of white wine.

VINUM FERRI.

Steel-wine.

Lond.

Take of

Iron filings, four ounces;

Spanish white wine, four pints.

Macerate without heat for a month, frequently shaking it; and strain: or

Take of

Iron filings, three ounces;

Cochineal, half a dram;

Rhenish wine, two pints.

Digest them together for twenty days, frequently shaking the vessel; and then pass the wine through a filter.

Both these wines are sufficiently

elegant ones. Rhenish is an excellent menstruum for steel, and dissolves a considerable quantity of it; and the cochineal imparts a fine colour.

Steel wine is a very useful preparation of this metal, and frequently exhibited in *chlorotic* and other *indispositions* where chalybeates are proper. Boerhaave recommends it as one of the noblest medicines he was acquainted with, for promoting that power in the body by which blood is made, when weakened by a bare debility of the over-relaxed solids, and an indolent, cold, aqueous indisposition of the juices: for in this case, says he, no virtue of any vegetable or animal substance, no diet nor regimen can effect that which is effected by iron: but it proves hurtful, where the vital powers are already too strong, whether this proceed from the fluids or the solids. The dose is from a dram to half an ounce; which may be repeated two or threetimes a day.

Some direct solutions of iron, made in wine or other vegetable acids, to be evaporated to the consistence of an extract, under the title of *EXTRACTUM MARTIS*. These preparations have no advantage, in point of virtue, above the common chalybeates; though in some forms, that of pills in particular, they may be rather more commodiously exhibited, than most of the officinal chalybeates of equal efficacy. They may be made into pills by themselves, and are tenacious enough to reduce other substances into that form.

VINUM IPECACUANHÆ.

Wine of ipecacuanha.

Lond.

Take of

Ipecacuanha, bruised, two ounces;

Spanish white wine, two pints.

Macerate without heat, and strain.

TINCTURA IPECACUANHÆ.

Tincture of ipecacuanha.

Edinb.

Take of

Ipecacuanha in powder, one ounce;

Spanish white wine, fifteen ounces.

After three days' digestion, let the tincture be filtered for use.

Both these wines are very mild and safe emetics, and equally serviceable, in *dysenteries* also, with the ipecacuanha in substance; this root yielding nearly all its virtues both to the Spanish white wine here ordered, as it does a good share of them even to aqueous liquors. The common dose is an ounce, more or less, according to the age and strength of the patient. The college of Edinburgh added formerly a scruple of cochineal, which imparts a fine red colour to the liquor. This article is now omitted, on a complaint, that the red colour of the matters evacuated sometimes alarmed the patient, as if it proceeded from a discharge of blood.

VINUM VIPERINUM.

Viper wine.

Lond.

Take of

Dry vipers, two ounces;

Mountain, three pints.

Macerate with a gentle heat for a week, and then strain off the wine.

It has been disputed, whether live or dry vipers are preferable for making this medicine. Such as are moderately and newly dried, are perhaps the most eligible, since by exsiccation they seem to lose only their phlegmatic or aqueous parts. Whether they communicate to the wine, either when used fresh or dry, so much virtue as they are supposed to do, is greatly to be doubted. Some compositions under this name have been highly celebrated, as *restoratives in debilities and decays of constitution*; but what virtues of this kind they possessed,

were supplied chiefly from other ingredients.

VINUM MILLEPEDARUM.

Wine of millepedes.

Edinb.

Take of

Live millepedes, bruised, two ounces;

Rhenish wine, one pound.

Infuse them together for seven days, and afterwards press the liquor through a strainer.

This wine has been commended as *an admirable cleanser of all the viscera, yielding to nothing in the jaundice, and obstructions of the kidneys or urinary passages, of excellent service in almost all chronic distempers*, even in scrophulous and strumous swellings, and in defluxions of rheum upon the eyes. But those who expected these extraordinary virtues from it, have often been deceived; and, at present, there are few who have any great dependence on it. It is directed to be given from half an ounce to two ounces.

VINUM CEPHALICUM.

Cephalic wine.

Take of

Wild valerian root, four ounces;

Virginian snake-root, one ounce;

Rosemary tops, half an ounce;

French white wine, six pints.

Digest them together for three days, and then filter the tincture.

This preparation promises to be a medicine of considerable utility as a cephalic, that is, in disorders of the nervous system, wherein the membranes of the brain are often principally affected, as in *vertiginous, epileptic, and paralytic complaints*.

Here it may be proper to observe, that, though some of the distilled waters, to be treated of hereafter, receive many supernumerary ingredients, without any considerable injury to the produce; yet in medicines prepared by infusions it is far otherwise. For there, ingredients, which give no-

thing over, do little harm: but as all those commonly employed in infusions communicate something to the menstruum; so, if superfluous ones be admitted, they load the liquor with an useless matter, and occupy in it the place that ought to be possessed by the more efficacious.

VINUM CEPHALICUM PURGANS.

Purging cephalic wine.

This is made by adding to the foregoing, of

Senna, two ounces;

Black hellebore roots, one ounce;

French white wine, two pints.

Purgatives are often very necessary additions to medicines of the foregoing class. Those here made choice of are well adapted to the purpose, and in such quantity as to make the wine gently laxative in doses of two ounces.

VINUM RHABARBARI.

Wine of rhubarb.

Lond.

Take of

Rhubarb, sliced, two ounces and a half;

Lesser cardamom seeds, bruised, half an ounce;

Saffron, two drams;

Spanish white wine, two pints;

Proof spirit of wine, eight ounces.

Macerate without heat for ten days, and then strain.

VINUM RHEI.

Wine of Rhubarb.

Edinb.

Take of

Rhubarb, two ounces;

Canella alba, one dram;

Proof spirit, two ounces;

Spanish white wine, fifteen ounces.

Macerate for seven days, and strain.

Either of these is a warm, cordial, laxative medicine; used chiefly in *weakness of the stomach and bowels, and some kinds of looseness, for evacuating the offending matter,*

and strengthening the tone of the viscera. They may be given from half a spoonful to three or four spoonfuls, or more, according to the circumstances of the disorder, and the purposes they are intended to answer.

VINUM AD STOMACHICOS.

Stomachic wine.

Edinb.

Take of

Calamus aromaticus,
Gentian root—each one ounce
and a half;

Peruvian bark, in powder, two
ounces;

Curassao oranges, one ounce;

Iron filings (to be tied up in a
bag) three ounces;

Spanish white wine, one gal-
lon.

Digest for the space of three days,
and then filter the tincture.

This tincture may likewise be made
without the iron.

This wine is a very efficacious
medicine in weakness of the sto-
mach and chylopoietic organs, and
in a lax flaccid state of the viscera
in general.

VINUM NICOTIANÆ.

Tobacco-wine.

Take of

Dried leaves of the best Virginia
tobacco, one ounce;

Spanish white wine, one pound.

Macerate for four days, and then
strain.

The present formula seems to be
the best mode for administering the
tobacco internally; for it extracts
more fully the active parts of the
tobacco than either water, or spirit,
separately. The dose is similar to
that given when infused in either
of the above menstrua. See Mat.
Med. Art. NICOTIANA.

VINUM SCILLÆ.

Squill wine.

Take of

Dried squills sliced, one ounce;

Ginger, one dram;

French white wine, two pounds.
Macerate for three days, and then
strain.

As the active properties of the
squill are fully extracted by the
wine, and a cordial virtue joined
with it by the addition of the ginger,
which is a good corrector, and, by
preventing its immediate action on
the primæ viæ, assist in determin-
ing it more freely to the kidneys,
or other excretory organs, where
it is more wanted to exert its
power.

VINUM OPII;

formerly

TINCTURA THEBAICA.

Wine of opium.

Take of

Strained opium, two ounces;

Cinnamon,

Cloves,—each one dram;

Spanish white wine, one pint.

Macerate without heat for a week,
and then filter the tincture
through paper.

This is the LIQUID LAUDANUM
of SYDENHAM, with the exchange
of Canary wine for Mountain, and
the omission of an ounce of saf-
fron; and was the *tinctura thebaica*,
or liquid laudanum, of the old
London Pharmacopœia. The aro-
matics in the form above are in so
small quantity, that the prescriber
can scarce expect any considerable
effect from them, the proportion of
each that goes to a grain of opium,
amounting to no more than the six-
teenth part of a grain. Even these
minute proportions, however, are
in good measure sufficient to take
off the ill odour of the opium,
which seems to be all that is intend-
ed by them.

The principal advantages of ex-
hibiting opium in this form are,
that by being already dissolved it
exerts itself the sooner in the
body; and that by some persons,
liquids are more commodiously
taken, than a bolus or pill. The

common doses of the tincture are from *ten drops to forty, fifty, or more*, according to the exigencies of the case. It were to be wished that the dose could be more exactly ascertained, by weight or measure; as the drops may, according to different circumstances, vary in quantity, though in number the same; and as an error therein may, in some cases, be of mischievous consequence. *Twenty drops contain, at a medium, about one grain of opium*, or rather so much as that quantity of wine will extract from one grain; for the liquor does not dissolve the whole substance of the opium, nor is the solution equivalent, in its effect, to the full quantity of opium employed in it.

A liquid opiate, free from the inconveniences here complained of, will be described under the head of *Spirituus Tinctures*.

VINUM AROMATICUM.

Aromatic wine.

Take of

- Cloves,
- Ginger,—each half an ounce;
- Cinnamon,
- Nutmegs,—each one ounce;
- Spanish white wine, six pints.

Beat the spices into a coarse powder, and steep them in the wine for some days; then pass the liquor through a strainer.

This wine is a very high cordial, and greatly commended for *warming the habit and strengthening the nervous system*. It is so hot of the spices as to require being diluted for use, and to be taken only in small quantities at a time. Mixed with a little lemon juice, and a large proportion of milk, it forms a pleasant and useful whey in low fevers.

VINUM ANTISCORBUTICUM.

Antiscorbutic wine.

Take of

- Leaves of Buckbean,
- Water-cresses,
- Brooklime,

Dittander,
Scurvy-grass,
Jack-by-the-hedge,

Roots of horseradish,—each one ounce;

Florence orris, two drams;

Spanish white wine, half a gallon.

The herbs and roots, all fresh gathered and cut small, are to be steeped in the wine, in a vessel very closely stopp'd, for twenty-four hours; after which the wine is to be filter'd for use.

This composition is not ill contriv'd for answering the purpose expressed by its title; though some of the ingredients are not unexceptionable. An ounce of the herbaceous brooklime is altogether insignificant in half a gallon of an infusion of such powerful materials; and it may be doubted whether the fresh orris root communicate any of its virtues to the liquor. The roots of the Florentine as well as of the common orris, raised in our gardens, are, while fresh, strong purgatives; but their purgative matter is so little disposed to solution in watery menstrua, that it separates from the expressed juices and settles to the bottom. In drying they change their nature; and the Florentine species, in a dry state, might be an useful addition for giving an agreeable flavour to the wine. The flavour which this root communicates to vinous liquors, greatly resembles that of raspberries.

VINUM SCORBUTICUM.

Scorbutic wine.

Take of

Garden scurvy-grass, one handful;

Horseradish root, scraped, half an ounce;

Winter's bark, two drams;

Spanish white wine, two pints.

Let them steep together in the cold for three days.

This wine is so far impregnated with the virtues of the ingredients, as to do considerable service in *scorbutic habits*. It is used chiefly in the spring, in the quantity of a common wine-glass, two or three times a day. Though far more simple than the preceding, it is not perhaps less efficacious.

VINUM SCORBUTICUM
MUNTINGII.

Muntingius's scorbutic wine.

Take of

The roots of the greater water-dock, six ounces;
Gentian root,
Liquorice,
Cinnamon,
Black pepper,
Mace,—each three ounces;
Saffron, two ounces;
Mountain wine, sixteen pints;
Strong vinegar, four pints;
Yolks of three fresh eggs.

Reduce the roots and spices into a gross powder, and pour on them the wine, vinegar, and yolks of eggs. Digest the whole in a close vessel, with a gentle warmth, for three days; and then strain out the liquor for use.

The author of this composition recommends it as a medicine of infallible efficacy against *inveterate scurvies*, and all kinds of *scorbutic complaints*, particularly such as are not accompanied with a fever or inflammation: even *palsies*, and the *venereal lues*, he says, have yielded to it. The dose is from three to six ounces, to be taken in the morning on an empty stomach, and continued for fourteen or twenty days, or longer: some quantity of it is likewise to be mixed with the patient's common drink, which he directs to be either good Rhenish wine, or sound malt liquors not too new. If the patient complains of heat, dryness, a violent cough, or where there are any symptoms of a consumption, the black pepper is

ordered to be omitted, and the liquorice increased in its room to six ounces.

A composition differing from the above only in the omission of vinegar, and employing spirit of wine for the menstruum, is said to have come into esteem at Paris, *against the gout*.

VINUM FEBRIFUGUM.
Febrifuge wine.
Paris.

Take of

Peruvian bark, in powder, two ounces;
Rough red wine, two pints.

Digest them together in a circulatory vessel, with a moderate heat, for forty-eight hours, occasionally shaking the vessel: then suffer the whole to cool, and pass the wine through a strainer.

This is the preparation of bark made use of by sir Robert Tabor or Talbot (an English gentleman residing in France) who was one of the first that retrieved the character of the medicine itself, at the time that some ill consequences following its imprudent use had brought it into disesteem. He kept this preparation a secret, till Lewis XIV. purchased it for a considerable sum, and communicated it to the public. It was not however the preparation, but a proper method of managing the medicine, upon which the success of his practice depended. It appears from experience, that this wine is less certain in the cure of agues, than the bark given in substance; nor is it equal, in this intention, for general use, to the watery infusion; the wine preventing its being taken so freely as is in many cases requisite. It nevertheless has it uses, in those intermittent fevers where a large quantity of the bark is not necessary; and is particularly serviceable in a laxity and debility of the stomach and intestines.

VINUM GUAIAcinUM.

Guaiaicum wine.

Take of

Guaiaicum wood,
 Yellow Saunders, — each two
 ounces;
 Orange peel, dried,
 Lesser cardamom seeds, — each
 one ounce;
 Spanish white wine, one gallon.

Let them steep together for a week,
 and then strain out the wine for
 use.

This is a moderately warm and
 corroborating wine. It is used in
nervous weaknesses, in decays of con-
stitution from cold pituitous humours,
 and proves an useful preservative
against rheumatic and arthritic com-
plaints. Two ounces, or an ordi-
 nary wine glass, may be taken two
 or three times a day, and continued
 for a month or two.

VINUM GUAIAcinUM CUM
HELLEBORO.*Guaiaicum wine with hellebore.*

Take of

Guaiaicum wood,
 Black hellebore root, — each two
 ounces;
 Lesser cardamom seeds,
 Orange peel, dried, — each one
 ounce;

Spanish white wine, four pints.
 Let these ingredients steep together
 for a week or longer, and then
 strain out the wine for use.

From the warm stimulating, de-
 obstruent qualities of this wine, it
 may be used, to good advantage,
in cold phlegmatic habits, where the
humours stagnate in the remote ves-
sels, and where there is a disposition
to gouty, rheumatic, or hydropic dis-
orders. It is to be taken chiefly
 over night, in such small doses as
 not to run off by stool.

S E C T. V.

MEDICATED ALES.

MEDICATED ales are intend-
 ed as diet-drinks in chroni-
 cal indispositions. There are two
 ways of impregnating malt-liquors
 with the virtues of medicinal sub-
 stances; macerating the subject in
 the liquor after the fermentation is
 completely finished; and ferment-
 ing it along with the liquor, or at
 least adding it towards the end of
 the fermentation, that, by the reso-
 lutive power of that process, its
 texture may be opened, and its me-
 dicinal parts more fully extracted.
 Neumann observes, that the active
 powers of many vegetables are not
 only effectually extracted, but ex-
 tended as it were, by fermentation:
 that so much pounded nutmeg as
 will lie on the point of a knife,
 gives a flavour to a large vat of

fermenting ale: whereas, when the
 fermentation is finished, the quan-
 tity of liquor to which it gives a
 like impregnation, is comparatively
 inconsiderable.

CEREVISIA AMARA.

Bitter ale.

Take of

Gentian root,
 Lemon peel, fresh, — each four
 ounces;
 Long pepper, one ounce;
 Ale, one gallon.

Let them steep together, without
 heat.

This is an agreeable bitter sto-
 machic ale, much superior to the
 common purls, or any of the com-
 positions of this kind in the extem-
 poraneous recipe writers.

CEREVISIA APERIENS.

Aperient ale.

Take of

Mustard seed, unbruised, ten ounces :

Long birthwort root, six ounces ;
Lesser centaury tops, two ounces ;
Savin tops, one ounce ;
New small ale, ten gallons.

This is an useful aperient diet-drink in *cachectic* and *chlorotic* *indispositions*, and in all cases where obstructions begin to form in the viscera. It is to be taken to the quantity of half a pint at a time, twice a day.

CEREVISIA BUTLERI.

Dr. Butler's ale.

Take of

Betony,
Sage,
Agrimony,
Garden scurvy-grass,
Roman wormwood,—each three handfuls ;
Elecampane roots,
Horseradish roots,—each four ounces ;
New ale, four gallons.

The herbs and roots are to be put in a bag, and hung in the ale while it works.

This liquor has so far obtained among the common people, as to have been frequently made and sold in public houses. It is used in the spring, for purifying the blood, and preventing scorbutic disorders.

CEREVISIA CEPHALICA.

Cephalic ale.

Take of

Wild valerian root, ten ounces ;
Mustard-seed, whole, six ounces ;
Virginian snakeroot, two ounces ;
Rosemary, or sage, three ounces ;
New small ale, ten gallons.

The ingredients of this composition are all of the warm and stimulating kind ; and consequently tend to *invigorate the nervous system*, and *promote the circulation of the fluids*. In *palsies*, *epilepsies*, and *ver-*

tigoes, some benefit may be expected from this liquor used as common drink.

CEREVISIA DIURETICA.

Diuretic ale.

Take of

1.
Mustard-seed, whole,
Juniper berries,—each eight ounces ;Wild carrot seeds, three ounces ;
Common wormwood, two ounces ;
New small ale, ten gallons.

Take of

2.
Broom-tops,
Mustard-seed,—each sixteen ounces ;Flower-de-luce roots,
Sharp-pointed dock roots,—each twelve ounces ;Winter's bark,
Elder bark,
Wild carrot seeds,
Juniper berries,—each two pounds ;

New ale, twelve gallons.

In *hydropic cases*, and *corpulent scorbutic habits*, these aperient and diuretic liquors are very useful diet-drinks. Half a pint of either may be taken two or three times a day.

CEREVISIA AD SCORBUTICOS.

Scorbutic ale.

Take of

Horseradish root, fresh, one pound ;

Sharp-pointed dock roots, half a pound ;

Canella alba, two ounces ;

Buckbean leaves, fresh, eight ounces ; or dried, three ounces ;

New small ale, ten gallons.

In *scorbutic disorders*, and *impurities of the blood and juices*, this liquor, used as common drink, generally does service. All the ingredients are very effectual for the intention, and well suited to the form. If the sharp-pointed dock roots were exchanged for those of the great water dock, the composition would be still more powerful.

S E C T. VI.

SPIRITUOUS TINCTURES.

RECTIFIED SPIRIT OF WINE is the direct menstruum of the resins and essential oils of vegetables; and totally extracts these active principles from sundry vegetable matters, which yield them to water either not at all, or only in part. It dissolves likewise the sweet saccharine matter of vegetables; and, generally, those parts of animal bodies in which their peculiar smells and tastes reside.

The virtues of many vegetables are extracted almost equally by water and rectified spirit; but in the watery and spirituous tinctures of them there is this difference, that the active parts, in the watery extractions, are blended with a large proportion of inert gummy matter, on which their solubility in this menstruum in great measure depends, while rectified spirit extracts them almost pure from gum. Hence, when the spirituous tinctures are mixed with watery liquors, a part of what the spirit had taken up from the subject generally separates and subsides, on account of its having been freed from that matter which, being blended with it in the original vegetable, made it soluble in water. This, however, is not universal; for the active parts of some vegetables, when extracted by rectified spirit, are not precipitated by water, being almost equally dissoluble in both menstrea.

Rectified spirit may be tinged by vegetables of all colours, except blue. The juices of plants in general, which give out but little of their natural colour to watery liquors, communicate to spirit the whole of their green tincture, which for the most part proves elegant, though not very durable.

Fixed alkaline salts deepen the colour of spirituous tinctures; and hence have been supposed to promote the dissolving power of the menstruum, though this does not appear from experience: in the trials that have been made to determine this affair, no more was found to be taken up in the deep-coloured tinctures, than in the paler ones, and often not so much; if the alkali be added after the extraction of the tincture, it will heighten the colour as much as when mixed with the ingredients at first. Nor is the addition of these salts, in making tinctures, useless only, but likewise prejudicial, as they, in general, injure the flavour of aromatics, and superadd a quality sometimes contrary to the intention of the medicine. Volatile alkaline salts, in many cases, promote the action of the spirit. Acids generally weaken it; unless when the acid has been previously combined with the vinous spirit into a compound of new qualities, called dulcified spirit.

TINCTURA ALOES.

Tincture of aloes.
 Lond.

Take of

Socotorine aloes, powdered, half an ounce;

Extract of liquorice, one ounce and a half;

Distilled water,

Proof spirit, — of each eight ounces by measure.

Digest in a sand-bath, occasionally shaking the vessel, until the extract is dissolved; then strain.

Where the aloes is wished to be exhibited alone in a fluid state, this formula is one of the best; as the

extract of liquorice does no more than promote the suspension of the aloe, and covers in some degree the disagreeable taste of the aloes.

TINCTURA ALOES COMPOSITA;

formerly

ELIXIR ALOES.

Compound tincture of aloes.

Lond.

Take of

Socotorine aloes,

Saffron,—of each three ounces;

Tincture of myrrh, two pints.

Digest for eight days, and strain.

TINCTURA GENTIANÆ COMPOSITA;

formerly

TINCTURA AMARA.

Compound tincture of gentian.

Lond. Edinb.

Take of

Gentian root, sliced and bruised, two ounces;

Exterior peel of Seville orange, dried, one ounce;

Lesser cardamom seeds, bruised, half an ounce;

Proof spirit of wine, two pints.

Digest for eight days, and strain.

This is a very elegant spirituous bitter. As the preparation is designed for keeping, lemon-peel, an excellent ingredient in the watery bitter infusions, has, on account of the perishableness of its flavour, no place in this. The cardamom seeds are here a very commodious ingredient, as in this spirituous menstruum they are free from the inconvenience with which they are attended in other liquors, of rendering them untransparent. The Edinburgh Pharmacopœia has a composition similar in intention to this, under the title of

ELIXIR STOMACHICUM.

Stomachic elixir.

Edinb.

Take of

Gentian root, two ounces;

Curassao oranges, one ounce;

Virginian snakeroot, half an ounce;

Cochineal, half a dram;

French brandy, two pints.

Let them steep for three days, and then filter the elixir.

This elixir differs from that of former editions, in the substitution of Curassao oranges to fresh orange peel, and in the addition of half an ounce of Virginian snakeroot. The first is a grateful aromatic bitter, and the latter superadds a degree of pungency coinciding with the intention. Both this and the preceding composition are *very useful stomachic bitters.*

TINCTURA CINNAMOMI COMPOSITA;

formerly

TINCTURA AROMATICA.

Compound tincture of cinnamon.

Lond.

Take of

Cinnamon, six drams;

Lesser cardamom seeds, three drams;

Long pepper,

Ginger,—each two drams;

Proof spirit of wine, two pints.

Digest, for eight days, and then strain off the tincture.

This is a very warm aromatic, too much so to be given without dilution. A tea-spoonful or two may be taken in wine, or any other convenient vehicle, *in languors, weakness of the stomach, flatulencies, and similar complaints.* The stomachic tincture described hereafter, is similar in intention to this, but contrived less hot of the spices, that it may be taken by itself.

TINCTURA AROMATICA.

Aromatic tincture.

Edinb.

Take of

Cinnamon, six drams;

Lesser cardamom seeds, one ounce;

Garden angelica root, three
drams;

Long pepper, two drams;

Proof spirit, two pounds and a
half.

Macerate seven days, and filter.

This preparation is a sufficiently
elegant warm aromatic; and may
be taken with the same intention,
and in similar doses, with the for-
mer.

TINCTURA AURANTII CORTICIS.

Tincture of orange-peel.
Lond.

Take of

The fresh exterior peel of Seville
oranges, three ounces;

Proof spirit of wine, two pints.

Digest for three days, and strain.

In this tincture both the bitter
part and essential oil of the peel are
extracted, so fully as to be capable
of answering any medicinal pur-
pose for which the peel itself or
other preparations may be employ-
ed; for which see Mat. Med. ar-
ticle AURANTIORUM HISPALE-
NSIUM CORTEX, &c.

TINCTURA BALSAMI PERU- VIANI.

Tincture of balsam of Peru.
Lond.

Take of

Balsam of Peru, four ounces by
weight;

Rectified spirit of wine, one
pint;

Digest until the balsam is dis-
solved.

As the spirit dissolves the whole of
the balsam and frees it from its im-
purities, this may be therefore con-
sidered as a formula well adapted
to exhibit internally, and supply to
the habit the medicinal powers of
the balsam in their full force; for
which see Mat. Med. article BAL-
SAMUM PERUVIANUM.

TINCTURA BALSAMICA.

Balsamic tincture.

Take of

Balsam of Copaiba, one ounce
and a half;

Balsam of Peru, half an ounce;

English saffron, one dram;

Rectified spirit of wine, one pint.

Digest these ingredients together,
in a sand heat, for three days;
and then pass the tincture through
a strainer.

This tincture is an excellent bal-
samic, both for internal and ex-
ternal purposes. It is usually given
in doses of ten, twenty, or thirty
drops, in the *fluor albus*, *gleets*, *ca-
chexies*, some kinds of *asthmas*, and
nephritic complaints, for *strengthening
the tone of the viscera*, and *corrobo-
rating the nervous system in general*.
Some caution is requisite in the use
of these resinous warm medicines:
in cold, languid, phlegmatic habits,
they have for the most part good
effects; but in bilious and pletho-
ric constitutions, where there is
any tendency to inflammation or
immoderate heat, they are mani-
festly prejudicial, and raise or con-
tinue febrile symptoms.

TINCTURA CANTHARIDIS.

Tincture of cantharis.
Lond.

Take of

Cantharis, bruised, two drams;

Cochineal, half a dram;

Proof spirit, a pint and a half.

Digest for eight days, and strain.

Edinb.

Take of

Cantharides, one dram;

Proof spirit, one pound.

Digest four days, and filter.

These tinctures possess the whole
virtues of the fly, and are the only
preparations of it designed for in-
ternal use; tinctures being by far
the most commodious and safe form
for the exhibition of this active
drug. If any additional substances
should be thought requisite for pro-
moting the effect of the cantharides,

whether as a diuretic, as a detergent in ulcerations of the urinary passages, or as a refringent in diabetes, seminal gleets, and the fluor albus, they are more advantageously joined extemporaneously to the tincture, or interposed by themselves at proper intervals. For the medicinal powers of cantharides, see Mat. Med. article CANTHARIDES; where they are more fully detailed.

The usual dose of these tinctures is from ten to twenty drops, which may be taken in a glass of water, or any other more agreeable liquor, twice a day; and increased by two or three drops at a time, according to the effect; or till some slight degree of strangury is perceived.

TINCTURA CARDAMOMI.

Tincture of cardamoms.

Lond.

Take of

Lesser cardamom seeds, bruised, three ounces;

Proof spirit, two pints.

Digest for eight days, and strain.

In the Edinburgh Pharmacopœia, six ounces of the seeds are prescribed to two pounds and a half of spirit; which constitutes the difference betwixt the two.

Tincture of cardamoms has been in use for a considerable time. It is a pleasant, warm cordial, and may be taken, along with any proper vehicle, from a dram to a spoonful or two.

TINCTURA CASCARILLÆ.

Tincture of cascarilla.

Take of

The bark of cascarilla, four ounces;

Proof spirit of wine, two pints.

Digest with a gentle heat for eight days, and strain.

The proof spirit of wine so fully extracts the active powers of the cascarilla, that this tincture may be employed to answer most of the purposes for which the bark is recommended. But it requires to be

exhibited in substance, when given in intermittents. Its virtues are enumerated under the article ELEUTHERIÆ CORTEX, in the Mat. Med.

TINCTURA CASTOREI.

Tincture of castor.

Lond.

Take of

Russia castor, powdered, two ounces;

Proof spirit of wine, two pints.

Digest for ten days, and strain.

Edinb.

Take of

Russia castor, one ounce and a half;

Rectified spirit of wine, one pound.

Digest them with a gentle heat for six days, and strain.

It has been disputed, whether a weak or rectified spirit, and cold or warm digestion, be preferable for making this tincture. To determine this point, the following experiment has been brought. "Some fine Siberia castor having been infused in good French brandy, without heat, for twenty days, the tincture proved very weak: on the same individual castor (the magma or residuum of the former tincture) the same quantity of rectified spirit was poured, as before of brandy; and after a few hours' warm digestion, a tincture was extracted much stronger than the other." But this experiment is not satisfactory; the effects of the two menstrua, and of heat, having been respectively compared in very different circumstances. From the trials which I have made, it appears, that castor, macerated without heat, gives out its finer and most grateful parts to either spirit, more perfectly to the rectified; that heat enables both menstrua to extract the greatest part of its grosser and more nauseous matter; and that proof spirit ex-

tracts this last more readily than rectified.

The tincture of castor is recommended in *most kinds of nervous complaints, and hysteric disorders*: in the latter it sometimes does service, though many have complained of its proving ineffectual. The dose is from twenty drops to forty, fifty, or more. See CASTOREUM in Mat. Med.

TINCTURA CASTOREI COMPOSITA.

Compound tincture of castor.
Edinb.

Take of

Russia castor, one ounce;
Asafœtida, half an ounce;
Vinous spirit of sal ammoniac,
one pound.

Digest for six days in a close-stopt phial, frequently shaking the vessel; and then strain the tincture.

This composition is a medicine of real efficacy, particularly in *hysteric disorders, and the several symptoms which accompany them*. The volatile oily spirit is an excellent menstruum both for the castor and the asafœtida, and greatly adds to their virtues.

TINCTURA CINNAMOMI.

Tincture of cinnamon.
Lond.

Take of

Cinnamon, bruised,* one ounce
and a half;

Proof spirit of wine, one pint.

Digest for ten days, and strain.

The prescription in the Edinburgh Pharmacopœia, is exactly the same.

The tincture of cinnamon possesses the restringent virtues of the cinnamon, as well as its aromatic cordial ones; and, in this respect, it differs from the distilled waters of the spice.

TINCTURA CINCHONÆ;

formerly

TINCTURA CORTICIS PERUVIANI SIMPLEX.

Tincture of Peruvian bark.
Lond.

Take of

Cinchona, powdered, six ounces;
Proof spirit, two pints.

Digest with a gentle heat, for eight days, and strain.

A medicine of this kind has been for a long time pretty much in esteem, and usually kept in the shops, though but lately received into the dispensatory. Some have employed highly-rectified spirit of wine as a menstruum; which they have taken care fully to saturate, by digestion on a large quantity of the bark. Others have thought to assist the action of the spirit, by the addition of a little fixt alkaline salt, which does, not, however, appear to be of any advantage; and others have given the preference to the vitriolic acid, which was supposed, by giving a greater consistence to the spirit, to enable it to sustain more than it would be capable of doing by itself; at the same time that the acid improves the medicine, by increasing the roughness of the bark. This last tincture, and that made with rectified spirit, have their advantages; though for general use the above-directed is the most convenient of any, the proof spirit extracting nearly all the virtues of the bark. It may be given from a tea-spoonful to half an ounce, or an ounce, according to the different purposes it is intended to answer. See PERUVIANUS CORTEX.

TINCTURA CINCHONÆ AMMONIATA;

formerly

TINCTURA CORTICIS PERUVIANI VOLATILIS.

Ammoniated tincture of Peruvian bark.
Lond.

Take of

Cinchona, powdered, four ounces;
Compound spirit of ammonia,
two pints.

Digest, in a vessel close stopp'd, for ten days, and strain.

This tincture is but slightly impregnated with the virtues of the bark; and is so acrimonious, that the largest dose, which can with safety be given of it, can contain only a very small quantity of the subject. The medicine nevertheless has its uses, and may be serviceable in some cases where the stronger are improper, as *in difficulty of breathing, obstructions, and oppressions of the breast*. Stronger tinctures of this kind may be obtained by means of dulcified spirit of sal ammoniac, or the spirit prepared with quicklime. All the three may be employed where a large quantity of bark is not required, as *at the close of the cure of intermittents, in weakness of digestion*, attended with a cold sensation at the stomach, and *some fluxes*, particularly those from the uterus, where the circulation is languid, the fibres relaxed, and where there is a periodical return of slight feverish complaints. In these cases, I have often experienced salutary effects from a tincture in dulcified spirit of sal ammoniac, given to the quantity of a tea spoonful five or six times a day, in any appropriated vehicles.

TINCTURA CINCHONÆ COMPOSITA.

Compound tincture of Peruvian bark.
Lond.

Take of

Cinchona powdered, two ounces;
Exterior peel of Seville orange,
dried, one ounce and a half;
Virginian serpentary, bruised,
three drams;
Saffron, one dram;
Cochineal, powdered, two scruples;
Proof spirit of wine, twenty ounces *by measure*.

Digest for fourteen days, and strain.

This medicine bore the name of

HUXHAM as its inventor; and is given as a corroborant and stomachic, in doses of a few drams, particularly to those recovering after long fevers, and also in some cases where patients cannot bear the bark in substance.

TINCTURA CORTICIS PERUVIANI COMP.

Compound tincture of Peruvian bark.
Edinb.

Take of

Peruvian bark, in powder, three ounces;
Virginian snakeroot,
Gentian,—each two drams;
French brandy, two pints.

Let them steep together for three days, and afterwards filter the tincture.

The substances here joined to the bark, in many cases, promote its efficacy in the cure of intermittents; and not unfrequently are absolutely necessary. In some bad habits, particularly where the juices are sluggish and tenacious, the viscera and abdominal glands obstructed, the bark, by itself, proves unsuccessful, if not injurious; whilst, given in conjunction with corroborant stomachics and deobstruents, it rarely fails of the due effect. Gentian and Virginian snakeroot are among the best additions for the purpose; to which it is often necessary to join chalybeate medicines also.

TINCTURA COLUMBÆ.

Tincture of columba.
Lond.

Take of

Columba, powdered, two ounces and an half;
Proof spirit of wine, two pints.

Digest for eight days, and strain.

The virtues of the columbæ are possessed in a great degree by this menstruum, so as to render it a medicine of much effect; and it may be depended upon where the root

is useful: but the root itself in powder is more eligible, where no circumstances occur to prohibit its exhibition. See Mat. Med. article COLUMBÆ RADIX.

TINCTURA CROCI.

Tincture of saffron.

Take of

English saffron, one ounce;

Proof spirit, fifteen ounces.

Digest for five days, and strain through paper.

This medicine derives scarce any power from the saffron, which has itself fallen meritedly into disrepute. (See CROCUS, in the Mat. Med.) The tincture therefore can be kept only for a colouring ingredient.

TINCTURA ASAFŒTIDÆ.

Tincture of asafœtida.

Lond.

Take of

Asafœtida, four ounces;

Rectified spirit of wine, two pints.

Digest, with a gentle heat, for six days, and strain.

This tincture possesses the virtues of the asafœtida itself; and may be given from ten drops to fifty or sixty, or more, for a dose.

Instead of the *rectified spirit of wine*, the Edinburgh college orders *vinous spirit of sal ammoniac*, and the digestion to be performed in a close-shut vessel. This tincture is considered more generally useful than the other; as the vinous spirit of sal ammoniac is not only a more powerful menstruum than the rectified spirit, but also coincides with the general virtues of the asafœtida.

TINCTURA FULIGINIS.

Tincture of soot.

Edinb.

Take of

Shining wood-soot, one ounce;

Asafœtida, half an ounce;

Rectified spirit of wine,

Proof spirit—of each half a pound.

Digest six days, and strain.

Fuller, in his Pharmacopœia Domestica, has a medicine under the title of HYSTERIC TINCTURE, similar to this, only with a little myrrh, which is no very material addition to asafœtida and foot. This medicine is found serviceable, not only in hysteric cases, but likewise in other nervous disorders; and may be given from a tea-spoonful to a common spoonful twice a day.

TINCTURA GUAIACI AMMONIATA;

formerly

TINCTURA GUAIACINA VOLATILIS.

Ammoniated tincture of guaiacum.
Lond.

Take of

The gum-resin guaiacum, four ounces;

Compound spirit of ammoniac, a pint and a half.

Digest, in a vessel close-stopt, for three days, and strain.

This is a very elegant and efficacious tincture; the volatile spirit excellently dissolving the gum, and, at the same time, promoting its medicinal virtue. In *rheumatic cases*, a tea-spoonful taken every morning and evening in any convenient vehicle, has proved of singular service.

ELIXIR GUAIACINUM VOLATILE.

Edinb.

Take of

Gum guaiacum, four ounces;

Balsam of Peru, two drams;

Distilled oil of sassafras, half a dram;

Vinous spirit of sal ammoniac, a pound and a-half.

Macerate in a close vessel for six days, and strain.

The preference has been given to this over that of the London Pharmacopœia; as the vinous spirit of this is less acrimonious than the

menstruum of the other, and the addition of the balsam of Peru and oil of saffraſas increaſes the permanence of its operation as a general ſtimulant, and makes it a more powerful diaphoretic.

• TINCTURA GALBANI.

Tincture of galbanum.

Lond.

Take of

Galbanum, cut into ſmall pieces, two ounces ;

Proof ſpirit of wine, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

Galbanum is one of the ſtrong-eſt of the ſœtid gums, and though leſs active, it is much leſs diſagreeable than the aſaſœtida. Hence this tincture in cures of hyſteria, flatulencies, and the aſthmatic complaints of old people, may be ſucceſsfully employed, where a ſœtid antiſpaſmodic is immediately required ; and where patients cannot bear the aſaſœtida, this may be a very proper ſuccedaneum.

TINCTURA JALAPII.

Tincture of jalap.

Lond.

Take of

Jalap root, powdered, eight ounces ;

Proof ſpirit of wine, two pints.

Digeſt, with a gentle heat, for eight days, and ſtrain.

This tincture is an uſeful and mild purgative, the menſtruum here employed taking up ſo much of the gummy parts, as corrects the griping quality with which the reſin is attended. It may be taken by itſelf from a dram to half an ounce ; or mixed in ſmaller quantity with cathartic infuſions, or the like.

TINCTURA JALAPPÆ.

Tincture of jalap.

Edinb.

Take of

Jalap root, in coarſe powder, three ounces ;

Proof ſpirit, fifteen ounces.

Digeſt for eight days, and ſtrain.

Rectified ſpirit of wine was formerly ordered for the preparation of this tincture ; but rectified ſpirit, diſſolving little more than the pure reſinous parts of the jalap, rendered the uſe of the medicine ſomewhat leſs commodious than that of the tincture prepared with proof ſpirit. Moſt of the tinctures made in rectified ſpirit, diluted with water ſo as to be fit for taking, form a turbid white mixture : many of them are ſafely taken in this form, without any further addition ; but the cathartic ones are never to be ventured on without an admixture of ſyrup or mucilage to keep the reſin united with the liquor ; for if it ſeparates, in its pure undivided ſtate, it never fails to produce violent gripes.

Some have preferred to the tincture of jalap a ſolution in ſpirit of wine of a known quantity of the reſin extracted from the root ; and obſerve, that this ſolution is more certain in ſtrength than any tincture that can be drawn from the root directly. For, as the purgative virtue of jalap reſides in its reſin, and as all jalap appears, from experiment, not to be equally reſinous, ſome ſorts yielding five, and others not three, ounces of reſin from ſixteen, it follows, that, although the root be always taken in the ſame proportion as the menſtruum, and the menſtruum always of the ſame ſtrength, it may nevertheless, according to the degree of goodneſs of the jalap, be impregnated with different quantities of reſin, and conſequently prove different in degree of efficacy. Though this objection againſt the tincture does not reach ſo far as ſome ſeem to ſuppoſe, it certainly behoves the apothecary to be careful in the choice of the root. The inferior

forts may be employed for making the *resina jalapii*, which they yield in as great perfection, though not in so large quantity, as the best. Neumann thinks even the worm-eaten jalap as good for that purpose as any other.

TINCTURA CATECHU;

formerly

TINCTURA JAPONICA.

Tincture of catechu.

Lond.

Take of

Japan earth, three ounces;

Cinnamon, two ounces;

Proof spirit of wine, two pints.

Digest for three days, and strain.

To the same ingredients the Edinburgh college orders two pounds and a half of proof spirit.

The cinnamon here is a very useful addition to the Japan earth, not only as it warms the stomach, &c. but likewise as it improves the roughness and astringency of the other.

TINCTURA E KINO.

Tincture of gum kino.

Edinb.

Take of

Gum kino, two ounces;

Proof spirit, one pound and a half.

Digest eight days, and strain.

These tinctures are of service in all kinds of *defluxions*, *catarrhs*, *loosenesses*, *uterine fluors*, and *similar disorders*, where mild astringent medicines are indicated. Two or three tea-spoonfuls may be taken every now and then, in red wine or any other proper vehicle. This seems to be one of the best forms in which the kino can be exhibited, in obstinate diarrhoeas, and in cases of lenteria.

TINCTURA LACCÆ.

Tincture of gum lac.

Edinb.

Take of

Gum-lac, powdered, an ounce;

Myrrh, powdered, three drams;
Spirit of scurvy-grafs, a pint and a half.

Digest in a sand-heat for six days; after which strain off the tincture.

This tincture is principally employed for *strengthening the gums*, and in *bleedings* and *scorbutic exacerations of them*: it may be fitted for use in these intentions, by mixing it with honey of roses, or the like. Some recommend it internally *against scorbutic complaints*, and as a *corroborant in gleet*, *female weaknesses*, &c. Its warmth, pungency, and manifestly astringent bitterish taste, point out its virtues in these cases to be considerable, though common practice, among us, has not yet received it.

TINCTURA FERRI AMMONIACALIS.

Tincture of ammoniacal iron.

Take of

Ammoniacal iron, four ounces;

Proof spirit of wine, one pint.

Digest, and strain.

TINCTURA FERRI MURIATIS;

formerly

TINCTURA MARTIS IN SPIRITU SALIS.

Tincture of muriated iron.

Take of

The rust of iron, half a pound;

Muriatic acid, three pounds;

Rectified spirit of wine, three pints.

Pour the muriatic acid upon the rust of iron, in a glass vessel, and shake the mixture occasionally during three days; set it by, that the feculencies may subside; then pour off the liquor; evaporate to a pint; and when cold, add the spirit.

TINCTURA FERRI.

Tincture of iron.

Edin.

Take of

Purified scales of iron, powdered, three ounces;

Muriatic acid, a quantity sufficient to dissolve the powder. Digest with a mild heat, and add rectified spirit of wine as much as will make the whole two pounds and a half.

All the tinctures of iron are no other than real solutions of the metal made in acids, and combined with vinous spirits. The three tinctures, here directed, differ from one another only in strength, the acid being the same in all: the first is the weakest, and the second the strongest. In a former Pharmacopœia there was a tincture from the matter which remains after the sublimation of the martial flowers; which, though it appears to be a good one, is now expunged as superfluous. Some have recommended dulcified spirit of nitre as a menstruum; but though this readily dissolves the metal, it does not keep it suspended. The muriatic is the only acid that can be employed for this purpose.

All these tinctures are greatly preferable to the calces or croci of iron, as being not only more speedy, but likewise more certain in their operation: the second, in some cases, passes off through the intestinal tube with little effect; whilst the tinctures scarce ever fail. From ten to twenty drops of either of the tinctures may be taken two or three times a day, in any proper vehicle; though it is seldom advisable to extend the dose so far as the last of the quantities, especially in regard to the tincture in muriatic acid, which is exceedingly strong of the iron.

The tincture of the Edinburgh Pharmacopœia is by some considered as the best composition; for the scales are supposed to be fitter for giving a proper solution than the rust, and the strength of the muriatic acid is so variable, that the

quantity is left to the judgment of the operator. A pretty accurate criterion may be formed of the saturation by the fluid: if the acid should be superabundant, the solution is of a *green colour*; if fully saturated with the iron, of a *reddish* or *yellow colour*: sometimes it may be of an inky colour, but that happens when the rectified spirit has been impregnated with the astringent matter of the oak cask.

TINCTURA HELLEBORI NIGRI;

formerly

TINCTURA MELAMPODII.

Tincture of black hellebore.

Lond. and Edinb.

Take of

Black hellebore, coarsely powdered, four ounces;

Cochineal, two scruples;

Proof spirit of wine, two pints.

Digest with a gentle heat for eight days, and strain.

The Edinburgh college uses only half a dram of *cochineal*, but orders two pounds and a half of proof spirit, and after digestion the tincture to be filtered.

This is perhaps the best preparation of hellebore, when designed for an alterative, the menstruum here employed extracting the whole of its virtues. It has been found, from experience, particularly serviceable in uterine obstructions: in sanguine constitutions, where chalybeates are hurtful, it seldom fails of exciting the menstrual evacuations, and removing the ill consequences of their suppression. So great is the power of this medicine, that wherever, from an ill conformation of the parts, or other causes, the expected discharge does not succeed upon the use of it, the blood, as Dr. Mead has observed, is so forcibly propelled, as to make its way through other passages. A teaspoonful of the tincture may be

taken twice in a day, in warm water, or any other convenient vehicle.

TINCTURA MOSCHI.

Tincture of musk.

Edinb.

Take of

Musk, two drams;

Rectified spirit of wine, one pound.

Digest for ten days, and strain.

See the article MOSCHUS in the Materia Medica.

TINCTURA MYRRHÆ.

Tincture of myrrh.

Lond.

Take of

Myrrh, bruised, three ounces;

Proof spirit of wine, a pint and a half;

Rectified spirit of wine, half a pint.

After due digestion, strain off the tincture.

Edinb.

Take of

Myrrh, three ounces;

Rectified spirit of wine, two pounds and a half.

Digest ten days, and strain off the tincture.

The pharmaceutical writers in general have been of opinion, that no good tincture can be drawn from myrrh by spirit of wine alone, without the assistance of fixt alkaline salts. But it appears from proper experiments, that these salts only heighten the colour of the tincture, without enabling the menstruum to dissolve any more than it would by itself. Rectified spirit extracts, without any addition, all that part of the myrrh in which its peculiar smell and taste reside, viz. the resin: and proof spirit dissolves almost the whole drug, except its impurities.

Tincture of myrrh is recommended internally for warming the habit, attenuating viscid juices,

strengthening the solids, opening obstructions, particularly those of the uterine vessels, and resisting putrefaction. Boerhaave greatly esteems it in all languid cases, proceeding from simple inactivity; in those female disorders which are occasioned by an aqueous, mucous, sluggish indurification of the humours, and a relaxation of the vessels; in the fluor albus, and all diseases arising from a like cause. The dose is from fifteen drops to forty or more. The medicine may doubtless be given in these cases to advantage; though with us it is more commonly used externally, for cleansing foul ulcers, and promoting the exfoliation of carious bones.

TINCTURA MYRRHÆ ET ALOES.

Tincture of myrrh and aloes.

Lond.

Take of

Myrrh, in powder, one ounce and a half;

Hepatic aloes, in powder, one ounce;

Rectified spirit of wine, two pints;

Digest in a sand-heat for six days, and then let the tincture be strained off.

This tincture is employed only in surgical dressings, for cleansing foul ulcers, restraining the progress of gangrenes, &c. in which intention the aloes is an useful addition to the myrrh. The hepatic aloes is reckoned more effectual for these purposes than the finer Socotorine.

TINCTURA OPII.

Tincture of opium.

Lond.

Take of

Hard purified opium, powdered, ten drams;

Proof spirit of wine, one pint.

Digest for ten days, and strain.

This is an improvement upon the old Tinctura Thebaica, made with wine; twenty drops of which

contained about one grain of opium.

Of two ounces of strained opium, a pint of white wine dissolves not quite one ounce; but proof spirit dissolves nearly the whole. Proof spirit must therefore be the proper menstruum for strained opium: for though the proportion of opium is two ounces to a pint of wine in the Tinctura Thebaica, or Vinum Opii, and only ten drams in the Tinctura Opii to the same quantity of proof spirit, the strength of the Tinctura Opii is not less, but rather greater, than that of the Tinctura Thebaica.

The tincture is given in doses from ten to twenty drops or more.

TINCTURA OPII;

vulgo

LAUDANUM LIQUIDUM.

Tincture of opium, commonly called liquid laudanum.

Edinb.

Take of

Opium, two ounces;

Spirituos cinnamon water, one pound and a half.

Digest four days, and filter.

This is a very elegant liquid opiate, the menstruum dissolving nearly the whole substance of the opium, and effectually covering its ill flavour. The proportion of menstruum is somewhat larger than in the vinous tincture formerly described: one grain of opium goes to about twenty drops of that tincture, and twenty-five of this: nevertheless, as there appears to be more of the opium dissolved here than in the other, this tincture may possibly be the stronger of the two. It were to be wished that the shops were furnished with a liquid opiate, in which the proportion of menstruum was still much larger, so as to admit of the dose being determined by weight or measure; the method by drops seeming too

precarious for a medicine of so powerful a kind. The following preparation is contrived with this view.

Take of

Thebaic extract, half a dram;

Highly-rectified spirit of wine, called alcohol, ten ounces;

Simple cinnamon water, twenty ounces.

Digest them together until the opium is dissolved, and then filter the solution through paper.

This preparation I apprehend to be free from all the inconveniences attending the common opiate tinctures. The menstruum dissolves the whole of the opium except the impurities, and consequently the tincture is not liable to any uncertainty in point of strength. The dose may be ascertained to the greatest exactness: one grain of opium is contained in one ounce by measure, which is equal nearly to seven drams by weight. Neither the tinctures in wine nor proof spirit are so well adapted for keeping, as could be wished; in long standing, a part of the opium is gradually thrown off from both, and consequently the tinctures become gradually weaker: the part which thus separates, amounts sometimes, as I have been informed, to near one-fourth of the quantity of opium at first dissolved; it floats on the surface of the vinous tincture, and in the spirituous sinks to the bottom. In the preparation here recommended, it has not been observed that any separation happens.

Instead of the cinnamon water, pure water may be employed in the mixture; and where aromatic additions are wanted, either in a medicinal intention, or for covering the ill smell of the opium, any proper tincture or distilled water may be extemporaneously joined.

TINCTURA OPII CAMPHORATA;

formerly

ELIXIR PAREGORICUM.

Camphorated tincture of opium.

Lond.

Take of

Flowers of benzoin,
Hard purified opium,—each one
dram;

Camphor, two scruples;

Oil of aniseeds, one dram;

Proof spirit of wine, two
pints;

Digest for three days, and strain.

This tincture was usually made with rectified spirit of wine; but now with proof spirit; as it is found that the latter will suspend a greater proportion, than is here ordered, of benzoin.

This tincture is also supposed to have more effect as an anodyne, than might be expected from the quantity of opium, compared with that in the Tinctura Thebaica, and not without reason; as not above half the opium directed in the last was taken up by the vinous menstruum. It is a good palliative remedy, from one dram to two or three; but should seldom be trusted without other remedies.

TINCTURA OPII AMMONIATA;

vulgo

ELIXIR PARAGORICUM.

Ammoniated tincture of opium.

Edinb.

Take of

Flowers of benzoin,
English saffron,—of each three
drams;

Opium, two drams;

Essential oil of aniseed, half a
dram;

Vinous spirit of sal ammoniac,
sixteen ounces.

Digest for four days in a close
vessel, and strain it.

These elixirs are taken from Le

Mort, and were originally prescribed under the title of **ELIXIR ASTHMATICUM**, which they do not ill deserve. They contribute to *al- lay the tickling which provokes frequent coughing*; and at the same time are supposed to *open the breast, and give greater liberty of breathing*. The opium procures (as it does by itself) a temporary relief from the symptoms; whilst the other ingredients tend to remove the cause, and prevent their return. It is given to children, against the chin- cough, &c. from five drops to twenty; to adults, from twenty to a hundred. Half an ounce by measure contains about a grain of opium, in the London formula; but in that of Edinburgh the propor- tion is larger.

TINCTURA RHABARBARI.

Tincture of rhubarb.

Lond.

Take of

Rhubarb, sliced, two ounces;

Lesser cardamon seeds, bruised,
half an ounce;

Saffron, two drams;

Proof spirit of wine, two pints.

Digest for eight days, and strain.

The *College of Edinburgh* orders three ounces of rhubarb, and two pounds and a half of proof spirit.

TINCTURA RHABARBARI COMPOSITA.

Compound tincture of rhubarb.

Take of

Rhubarb, sliced, two ounces;

Liquorice, bruised, half an ounce;

Ginger, powdered,

Saffron,—of each two drams;

Distilled water, one pint;

Proof spirit of wine, twelve
ounces by measure.

Digest for eight days, and strain.

TINCTURA RHEI AMARA.

Bitter tincture of rhubarb.

Edinb.

Take of

Rhubarb, two ounces;

Gentian root, half an ounce;
 Virginian snakeroot, one dram;
 Proof spirit, two pounds and a
 half.

Digest seven days, and strain.

TINCTURA RHEI DULCIS.

Sweet tincture of rhubarb.

Edinb.

To two pound and a half of
 tincture of rhubarb, strained, add
 four ounces of sugar-candy, and
 digest until the sugar is dissolved.

All the foregoing tinctures of
 rhubarb are designed as *stomachics*
 and *corroborants*, as well as *purga-*
tives. Spirituous liquors excellent-
 ly extract those parts of the rhubarb
 in which the two first qualities re-
 side, and the additional ingredients
 considerably promote their efficacy.
 In *weakness of the stomach, indigestion,*
laxity of the intestines, diarrhoeas,
colicky and other like complaints,
 these medicines are frequently of
 service. The second is also, in
 many cases, an useful addition to
 the Peruvian bark, in the cure of
intermittents, particularly in cachec-
 tic habits, where the viscera are
 obstructed. In these intentions, a
 spoonful or two may be taken for a
 dose, and occasionally repeated.

TINCTURA SATURNINA;

vulgo

TINCTURA ANTIPHTHISICA.

Antiphthical tincture.

Edinb.

Take of

Sugar of lead, an ounce and a
 half;

Vitriol of iron, one ounce;

Rectified spirit of wine, one
 pound.

Let a tincture be extracted without
 heat.

The reducing of the salts *sepa-*
rately into powder, and perform-
 ing of the digestion *without heat,*
 are very necessary circumstances:
 for if the ingredients be attempted
 to be pulverized together, they will

grow soft and almost liquid: and if
 heat be made use of, scarce any
 tincture will be obtained.

This tincture is sometimes given
 from twenty to thirty drops, for
restraining immoderate secretions, par-
ticularly the colliquative sweats at-
tending hectic fevers and phthical
disorders, whence the name *anti-*
phthical tincture. It is undoubt-
 edly a medicine of great efficacy in
 these cases, but too dangerous to be
rashly ventured on. Some have sup-
 posed, that it does not contain any
 of the sugar of lead; but experi-
 ments, made for that purpose, have
 shewn it does. The London col-
 lege have thrown it out of the last
 edition of their Pharmacopœia.

TINCTURA SCILLÆ.

Tincture of squills.

Lond.

Take of

Squills, fresh dried, four ounces;

Proof spirit of wine, two pints.

Digest for eight days, and pour
 off the clear liquor.

By this menstruum the virtues of
 the squills are fully extracted, and
 may supply the place of the vinegar
 or oxymel of squill, where those
 compounds, on account of the
 acid menstruum, may disagree with
 the stomach; but certainly the
 squill in substance is by much the
 most efficacious remedy.

TINCTURA SENÆ.

Tincture of senna.

Lond.

Take of

Raisins, stoned, sixteen ounces;

Senna, one pound;

Caraway seeds, bruised, one
 ounce and a half;

Lesser cardamoms, bruised, half
 an ounce;

Proof spirit of wine, one gallon.

Digest for fourteen days, and strain.

TINCTURA SENÆ COM- POSITA;

vulgo

ELIXIR SALUTIS;

Compound tincture of senna, commonly called elixir of health.
Edinb.

Take of

Senna leaves, two ounces;
Jalap root, one ounce;
Coriander seeds, half an ounce;
Proof spirit, three pounds and a half.

Digest for seven days, and to the strained liquor add four ounces of sugar-candy.

Both these tinctures are useful *carminatives* and *cathartics*, especially to those who have accustomed themselves to the use of spirituous liquors; they oftentimes relieve *flatulent* and *colicky complaints*, where the common cordials have little effect: the dose is from one to two ounces. Several preparations of this kind have been offered to the public, under the name of Daffy's elixir. The two above are equal to any, and superior to most of them. The last of these is a proper addition to castor-oil, to make it sit easy on the stomach, and is much preferable to any of the ardent spirits with which it is often given to produce that effect.

TINCTURA SERPENTARIÆ.

Tincture of snakeroot.
Lond.

Take of

Virginian snakeroot, three ounces;

Proof spirit of wine, two pints.

Digest without heat, and strain off the tincture.

Edinb.

Take of

Virginian snakeroot, two ounces;

Cochineal, one dram;

Proof spirit, two pounds and a half.

Digest four days, and strain off.

In the tincture of snakeroot, it was proposed to the college to employ rectified spirit; but as the

heat of this spirit prevents the medicine from being taken in so large a dose as it might otherwise be, a weaker spirit was made choice of. The tincture made in this menstruum, which extracts the whole virtues of the root, may be taken to the quantity of a spoonful or more every five or six hours; which often operates as a useful diaphoretic.

TINCTURA CARDAMOMI COMPOSITA;

formerly

TINCTURA STOMACHICA.

Compound tincture of cardamoms.
Lond.

Take of

Raisins, stoned, four ounces;

Cinnamon, bruised, half an ounce;

Caraway seeds,

Lesser cardamoms, husked,

Cochineal, powdered,—of each two drams;

Proof spirit of wine, two pints.

Digest for fourteen days and strain off.

This is a moderately warm stomachic tincture, much more pleasant than the USQUEBAUGH of our former Pharmacopœias. It may be taken, without any vehicle, to half an ounce or an ounce, though oftener used in mixtures.

TINCTURA SUCCINI.

Tincture of amber.

Take of

Yellow amber, pounded, one ounce;

Vitriolic æther, four ounces.

Digest for three days, in a vessel accurately closed, shaking the vessel frequently; and afterwards filter the tincture.

The amber was formerly dissolved in spirits of wine; but the æther forms a more elegant and active tincture, more perfectly dissolves the amber, and may be considered as one of the most valuable preparations of that con-

crete. It has been recommended in a variety of affections, particularly of the nervous kind, as hysterical and epileptic complaints. Its dose from a few drops to a tea-spoonful in a glass of wine or any other similar vehicle.

TINCTURA SUDORIFICA.

Sudorific tincture.

Take of

Virginian snakeroot, six drams;
Cochineal,
English saffron,—each two drams;
Opium, one scruple;
Spirit of Mindererus, one pint.

Digest them together in a gentle heat for three days, and then pass the tincture through a strainer.

This composition is an *efficacious sudorific*; the ingredients being of the most powerful kind, and the menstruum not only extracting those parts of them in which their virtues consist, but co-operating strongly in the same intention. From cochineal nothing more is expected than to furnish an agreeable colour to the tincture. Half an ounce of the tincture, by measure, contains five eighths of a grain of opium.

TINCTURA ANTIMONII.

Tincture of antimony.

Edinb.

Take of

Antimony, in powder, four ounces;
Salt of tartar, six ounces;
Rectified spirit of wine, two pints.

Mix the antimony with the salt of tartar, and inject them by little and little into a crucible placed in a strong fire. The mixture melts thin, and is to be continued in this state for half an hour; after which, it is to be poured out into a hot and dry iron mortar. Powder the mass while hot, put it into a heated matras, and pour thereon the

spirit. Digest them together, for three days, in a gentle heat of sand; and then decant the tincture.

In these processes, the alkaline salt unites with the sulphur of the antimony into a hepar; which communicates to the spirit a tincture of a gold colour. This antimonial tincture is supposed to contain likewise some of the reguline parts of the mineral, and is said to have sometimes provoked a puke when taken on an empty stomach, even in a small dose. It stands recommended, in doses of from ten to sixty drops or more, as a *deobstruent*, promoter of urine, and a *purifier of the blood*; but probably the VINUM EX ANTIMONIA TARTARISATO will answer equally every purpose.

TINCTURA BALSAMI TOLUTANI.

Tincture of balsam of Tolu.

Lond. and Edinb.

Take of

Balsam of Tolu, an ounce and a half;
Rectified spirit of wine, a pint.

Digest in a sand heat, until the balsam is dissolved: and then strain the tincture.

This is the same in both the London and Edinburgh Pharmacopœias, except in the title. In the latter, the tincture is named *Tinctura Tolutana*.

This solution of balsam of Tolu possesses all the virtues of the balsam itself. It may be taken internally, in the several intentions for which this valuable balsam is proper, to the quantity of a tea-spoonful or two, in any convenient vehicle. Mixed with the plain syrup of sugar, it forms an elegant balsamic syrup. See BALSAMUM TOLUTANUM in the *Materia Medica*.

TINCTURA VALERIANÆ.

Tincture of valerian.

Lond.

Take of

Wild valerian root, in coarse powder, four ounces;

Proof spirit of wine, two pints.

Digest with a gentle heat for eight days, and strain.

The valerian root ought to be reduced into fine powder, otherwise the spirit will not sufficiently extract its virtues. The tincture proves of a deep colour, and considerably strong of the valerian; though it has not been found to answer so well in the cure of epileptic disorders, as the root in substance exhibited in the form of powder or bolus. The dose of the tincture is, from half a spoonful to a spoonful or more, two or three times a day.

**TINCTURA VALERIANA
AMMONIATA;**

formerly

**TINCTURA VALERIANÆ
VOLATILIS.**

*Ammoniated tincture of valerian.**Lond.*

Take of

Wild valerian root, coarsely powdered, four ounces;

Compound spirit of ammonia, two pints.

Digest for eight days in a vessel closely stopp'd, and strain.

**TINCTURA VALERIANA
VOLATILIS.**

*Volatile tincture of valerian.**Edinb.*

Take of

Wild valerian root, two ounces;

Vinous spirit of sal ammoniac, one pound.

Macerate for six days in a close vessel, and strain.

The menstrua used in both these tinctures are each of them considered as excellently well calculated to extract the qualities; and, at the same time, considerably promote the virtues of the valerian, which in some cases wants an assistance

of this kind. The dose may be a tea-spoonful or two.

TINCTURA ZINZIBERIS.

*Tincture of ginger.**Lond.*

Take of

Ginger, powdered, two ounces;

Proof spirit of wine, two pints.

Digest with a gentle heat, for eight days, and strain.

This is a warm stimulant tincture; and where the qualities of the ginger are wanted to be thrown into the habit in a liquid form, this will answer the desired purpose.

TINCTURA VERATRI.

*Tincture of veratrum, or white hellebore.**Lond.*

Take of

White hellebore root, eight ounces;

Proof spirit, two pounds and a half.

Digest them together for ten days, and filter the tincture through paper.

This tincture is sometimes used for acuating cathartics, &c. and as an emetic in apoplectic and maniacal disorders. It may likewise be so managed as to prove a powerful alterative and deobstruent, in cases where milder remedies have little effect. But a great deal of caution is requisite in its use. The dose, at first, ought to be only a few drops; if considerable, it proves violently emetic or cathartic.

ELIXIR GUAIACINUM.

*Elixir of guaiacum.**Edinb.*

Take of

Gum guaiacum, one pound;

Balsam of Peru, three drams;

Rectified spirit of wine, two pounds and a half.

Digest for ten days, and strain off.

This composition and the other tinctures of the same gum are medicines of great efficacy, and capa-

ble of answering many useful purposes. They warm and strengthen the habit, and promote insensible perspiration. Twenty or thirty drops may be taken two or three times a day, or oftener, in any proper vehicle, in rheumatic complaints, cutaneous descædations, &c. particularly where the patient is of a cold phlegmatic temperament, and the solids weak and relaxed. In hot, bilious constitutions, and tenfity or rigidity of the vessels, like other stimulating medicines, they are evidently improper.

TINCTURA BENZOIS COMPOSITA ;

formerly

BALSAMUM TRAUMATICUM.

Compound tincture of benzoin.
Lond.

Take of

Benzoin, three ounces ;
Storax, strained, two ounces ;
Balsam of Tolu, one ounce ;
Socotorine aloes, half an ounce ;
Rectified spirit of wine, two pints.

Digest with a gentle heat for three days, and strain.

Edinb.

Take of

Benzoin, powdered, three ounces ;
Balsam of Peru, two ounces ;
Hepatic aloes, in powder, half an ounce ;
Rectified spirit of wine, two pints.

Digest them in a sand-heat, for the space of three days ; and then strain the balsam.

These two tinctures formerly stood highly recommended as internal and external applications. They were exhibited INTERNALLY for warming and strengthening the stomach and intestines, expelling flatulencies, and relieving colicky complaints—a few drops given for a dose, in wine, or any other convenient vehicle ;

— EXTERNALLY, for cleansing and healing ulcers and wounds, discharging cold tumors, allaying gouts, and rheumatic and other old pains and aches, and were applied cold on the part with a feather. At present they are chiefly employed in cases of recent wounds to stop hæmorrhages, and heal by the first intention, as it is termed in the language of surgery.

ELIXIR ALOES ;

vulgo

ELIXIR PROPRIETATIS.

Edinb.

Take of

Myrrh, in powder, two ounces ;
Rectified spirit of wine,
Proof spirit, — of each one pound.

Digest for four days, and add
Socotorine aloes, powdered, one ounce and a half ;

English saffron, one ounce.

Digest for two days more, and, when it is settled, pour it off.

This is the *elixir proprietatis* of Paracelsus, improved with regard to the manner of preparation.

This medicine is greatly recommended, and not undeservedly, as a warm stimulant and aperient. It strengthens the stomach and other viscera, cleanses the first passages from tenacious phlegm, and promotes the natural secretions in general. Its continued use has frequently done service in cachectic and isæric cases, uterine obstructions, and similar disorders ; particularly in cold, pale, phlegmatic habits. Where the patient is of a hot, bilious constitution, and florid complexion, this warm stimulating medicine is less proper, and sometimes prejudicial. The dose may be from twenty drops to a tea-spoonful or more, two or three times a day, according to the purposes which it is intended to answer.

ELIXIR PROPRIETATIS VITRIOLICUM.

Edinb.

Take of

Myrrh,

Socotorine aloes,—of each an ounce and a half;

English saffron, one ounce;

Dulcified spirit of vitriol, one pound.

Digest the myrrh with the spirit, in a well-stopped vial, four days; then add the saffron and aloes.

Digest them again for four days more; and when the feces have subsided, pour off the elixir.

Here the dulcified spirit of vitriol is very judiciously substituted for the spirit of sulphur, ordered in other books of pharmacy to be added to the foregoing preparation: for that strong acid precipitates from the liquor great part of what it had before taken up from the other ingredients; whereas, when the acid is previously combined with the vinous spirit, and thereby dulcified, as it is called, it does not impede its dissolving power. This elixir possesses the general virtues of the preceding, and is, in virtue of the menstruum, preferred to it in hot constitutions, and weaknesses of the stomach. See *Elixir vitrioli*.

ELIXIR VITRIOLI ACIDUM.

*Acid elixir of vitriol.**Edinb.*

Take of

Rectified spirit of wine, two pounds;

Drop into it, by degrees, six ounces of the vitriolic acid.

Digest the mixture in a very gentle heat, in a close vessel, for three days.

Then add of

Cinnamon, one ounce and a half;

Ginger, one ounce.

Digest again in a close vessel for six days; and then filter through paper in a glass funnel.

The intention in this process is, to obtain a tincture of aromatic vegetables, in spirit of wine, com-

bined with a considerable proportion of vitriolic acid. When the tincture is first drawn with vinous spirits, and the acid added afterwards, the acid precipitates great part of what the spirit had before taken up: and, on the other hand, when the acid is mixed with the spirit immediately before the extraction, it prevents the dissolution of all that it would have precipitated by the former way of treatment. By previously uniting the acid and the vinous spirit together by digestion, as in this process, the inconvenience is somewhat lessened.

All these compositions are valuable medicines in *weakness* and *relaxations of the stomach*, and *decays of constitution*, particularly in those which proceed from irregularities, which are accompanied with flow febrile symptoms, or which follow the suppression of intermit- tents. They have frequently taken place after bitters and aromatics, by themselves, had availed nothing: and, indeed, great part of their virtue depends on the vitriolic acid; which, barely diluted with water, has, in these cases, where the stomach could bear the acidity, produced happy effects.

Fuller relates (in his *Medicina Gymnastica*) that he was recovered, by Mynsicht's elixir, from an extreme decay of constitution, and continual reachings to vomit. They may all be given from ten to thirty or forty drops, or more, according to the quantity of acid, twice or thrice a day, at such times as the stomach is most empty.

The London College have omitted this elixir in their *Pharmacopœia*; supposing every advantage may be gained equally by the administration of the *ACIDUM VITRIOLI DILUTUM*.

ELIXIR VITRIOLI DULCE.

*Sweet elixir of vitriol.**Edinb.*

Take of the

Aromatic tincture, one pint;
Dulcified spirit of vitriol, eight
ounces by weight.

Mix them together.

This is designed for persons
*whose stomach is too weak to bear the
foregoing acid elixir.* To the taste
it is gratefully aromatic, without
any perceptible acidity. The dul-
cified spirit of vitriol, here directed,
occasions little or no precipitation
upon adding it to the tincture.

A medicine of this kind was for-
merly in great esteem, under the title
of VIGANI'S VOLATILE ELIXIR OF
VITRIOL; the composition of
which was first communicated to
the public in the *Pharmacopœia re-
formata*. It is prepared by digest-
ing some volatile spirit of vitriol
upon a small quantity of mint-
leaves curiously dried, till the li-
quor has acquired a fine green co-
lour. If the spirit, as it frequently
does, partakes too much of the acid,
this colour will not succeed: in
such case it should be rectified from
a little fixt alkaline salt. The mint
is most commodiously suspended in
the spirit in a fine linen cloth: this
prevents the necessity of filtration,
during which the more volatile
parts would exhale.

TINCTURA SABINÆ COM-
POSITA;

formerly

ELIXIR MYRRHÆ COMPOSI-
TUM.

Compound tincture of savin.

Lond.

Take of

Extract of savin, one ounce;
Tincture of castor, one pint;
Tincture of myrrh, half a pint.

Digest, until the extract of savin is
dissolved; then strain.

This preparation is a medicine of
great importance in *uterine obstruc-
tions*, and in *hypochondriacal* cases;
though, possibly, means might be
contrived of superadding more ef-

fectually the virtues of savin to a
tincture of myrrh and castor. It may
be given from five drops to twenty
or thirty, or more, in pennyroyal
water, or any other suitable vehicle.

TINCTURA RHEI CUM

ALOE;

vulgo

ELIXIR SACRUM.

*Tincture of rhubarb with aloes; com-
monly called Sacred elixir.*

Edinb.

Take of

Rhubarb, ten drams;
Socotorine aloes, six drams;
Lesser cardamom seeds, half a
ounce;

Proof spirit, two pounds and a
half.

Digest for seven days, and strain off
the elixir.

SPIRITUS VINOSUS CAM-
PHORATUS.

Camphorated spirit of wine.

Lond.

Take of

Camphor, four ounces;

Rectified spirit of wine, two pints.

Mix, that the camphor may be dis-
solved.

This solution of camphor is em-
ployed chiefly for external uses,
against *rheumatic pains*, *paralytic
numbnesses*, *inflammations*, for *dis-
cussing tumors*, *preventing gangrenes*,
or *restraining their progress*. It is too
pungent to be exhibited internally,
even when diluted, nor does the di-
lution succeed well; for on the ad-
mixture of aqueous liquors, the
camphor gradually separates and
runs together in little masses.

HOFFMAN, ROTHEN, and others,
mention a camphorated spirit not
subject to this inconvenience. It
is prepared by grinding the cam-
phor with somewhat more than an
equal weight of fixt alkaline salt,
then adding a proper quantity of
proof spirit, and drawing off one
half of it by distillation. This spi-
rit was proposed to be received into

the Pharmacopœia, under the title of SPIRITUS CAMPHORÆ TARTARIZATUS. But upon trial it did not answer expectation; some of the camphor rises with the spirit in distillation, though but a small quantity; whence, mixed with a large portion of water, it does not sensibly render it turbid: but in a proper quantity it exhibits the same appearance as the more common camphorated spirit. It did not appear, that spirit distilled from camphor, with or without the alkaline salt, differed at all in this respect.

The most convenient method of uniting camphor with aqueous liquors, for internal use, seems to be by the mediation of almonds, or of mucilages. Triturated with these, it readily mingles with water into the form of an emulsion, at the same time that its pungency is considerably abated. It may also be commodiously exhibited in the form of an oily draught, expressed oils totally dissolving it.

TINCTURA BENZOINI.

Tincture of benzoin.

Take of

Benzoin, four ounces;

Rectified spirit of wine, one pint.

Digest them together in a sand-heat for three or four days, and then decant off the tincture.

This tincture stands recommended in *asthmas*, and other disorders of the lungs, in doses of from twenty to sixty or seventy drops. It has, however, been principally made use of externally, as a cosmetic for cleansing and smoothing the skin. For these purposes it is mixed with a large portion of water, when it forms a white liquor called LAC VIRGINIS. If this be suffered to rest for some time, the benzoin precipitates, in form of a white magistery (of a very pleasant smell, and not disagreeable taste), which in the Brandenburg Pharmacopœia is preferred to the flowers of benzoin, as being

free from the empyreumatic flavour with which these are generally attended. It is, however, of a different nature from the flowers, being no other than the benzoin in its whole substance; whereas the flowers are a distinct part of it, not resinous, like the rest of the mass, but rather, as we shall see hereafter, of the saline kind. The precipitation is directed to be made with rose-water.

TINCTURA seu ESSENTIA AMBRÆ.

Tincture or essence of ambergris. Paris.

Take of

Ambergris, one dram;

Tartarized spirit of wine,

Spirit of roses, that is, highly rectified spirit of wine drawn off from dried damask roses, —each one ounce and a half.

Digest in the heat of a water-bath.

The ambergris, if pure, is here totally dissolved into a reddish liquor, provided the heat be sufficient to make the spirit boil or simmer. With a weaker heat, or if the spirit be not highly rectified, the solution does not succeed. This tincture is a *high cordial*: eight or ten drops may be taken on sugar.

TINCTURA seu ESSENTIA REGIA.

The royal tincture or essence. Paris.

Take of

Ambergris, two scruples;

Musk, one scruple;

Civet, ten grains;

Oil of cinnamon, six drops;

Oil of rhodium, four drops;

Salt of tartar, half a dram;

Rectified spirit of wine,

Spirit of roses,

Spirit of orange-flowers, —each one ounce and a half.

Grind the salt of tartar with the ambergris, musk, civet, and essential oils, till they are thoroughly mixed; then add the spirits, and digest in a warm place for some days, frequently shak-

ing the vessel ; afterwards let the liquor settle, and pour off the clear from the dregs.

This tincture is a very high perfume ; and by those who can bear substances of that class, may be taken, like the preceding, as a cordial. A few drops give a fine flavour to a large quantity of other liquors. The ambergris dissolves here with less heat than in the foregoing preparation ; the essential oils promoting its solution.

ESSENTIA LIGNORUM.

Essence of the woods.
Argentoratensf.

Take of

Sassafras, two ounces ;
Guaiacum, three ounces ;
China root,
Sarsaparilla,
Red faunders,
Yellow faunders--each one ounce ;
Spirit of wine, as much as will cover the above ingredients to the height of four inches.

Digest for eight days, and then filter the essence.

This essence, or tincture, is given in venereal and catarrhus disorders, and impurities of the humours in general, from a scruple to a dram or more. By gently drawing off half of the spirit, the remainder becomes proportionably stronger, and is then called *Essentia liquorum concentrata*.

BALSAMUM VITÆ;

Balsam of life.

Brandenburg.

Take of

Essential oils of Lavender,
Nutmegs,
Cloves,
Rhodium,
Serpyllum--each
half a dram ;
Cinnamon,
Lemon peel,
Bergamotte--each
two scruples ;

Balsam of Peru, one dram ;
Highly rectified spirit of lavender, fifteen ounces.

First dissolve the balsam in the spirit, then add the oils, and digest till the whole is dissolved.

This fragrant balsam is an improvement on one described by HOFFMANN, in his notes on Poterius, and is probably the same, or nearly the same, with the balsam so much celebrated afterwards in that author's practice, internally in *languors, faintings, debilities of the nervous system, colics, &c.* from ten to twenty or thirty drops ; and externally applied to the nostrils, temples, &c. in *vertiginous, lethargic and other like complaints*. Thus much is certain from HOFFMANN's own writings, that his balsam was composed of fragrant oils dissolved in rectified spirit of wine.

CHAPTER IV.

Conservation of recent vegetables and their infusions, &c. by sugar and honey.

S E C T. I.

CONSERVES.

CONSERVES are compositions of recent vegetable matters and sugar, beaten together into an uniform mass.

This management is introduced for preserving certain simples, undried, in an agreeable form, with as little alteration as possible in their native virtues; and to some subjects it is very advantageously applied. Vegetables whose virtues are lost or destroyed in drying, may in this form be kept uninjured for a length of time: for by carefully securing the mouth of the containing vessel, the alteration, as well as dissipation, of their active principles is generally prevented; and the sugar preserves them from the corruption which juicy vegetables would otherwise undergo.

There are, however, fundry vegetables, whose virtues are impaired by this treatment. Mucilaginous substances, by long lying with sugar, become less glutinous; and astringents, sensibly softer upon the palate. Many of the fragrant flowers are of so tender and delicate a texture, as almost entirely to lose their peculiar qualities on being beaten or bruised.

In general, it is obvious, that in this form, on account of the large admixture of sugar, only substances of considerable activity can be taken to advantage as medicines. And indeed, conserves are at present considered chiefly as auxiliaries to medicines of greater efficacy; or

as intermedia for joining them together. They are very convenient for reducing into boluses or pills the more ponderous powders as mercurius dulcis, the calces of iron, and other mineral preparations; which, with liquid or less consistent matters, as syrups, will not cohere.

The shops were formerly incumbered with many conserves, altogether insignificant; the few now retained have in general either an agreeable flavour to recommend them, or are capable of answering some useful purposes as medicines. Their common dose is the bulk of a nutmeg, or as much as can be taken up at once or twice upon the point of a knife. There is in general no great danger of exceeding in this particular.

General method of preparing conserves.
Leaves are picked from the stalks, and flowers from their cups.

They are then beaten in a marble mortar, with a wooden pestle, into a smooth mass; after which, thrice their weight of double-refined sugar is added by degrees, and the beating continued till they are uniformly mixed.

The sugar should be pulverized by itself, and passed through a sieve, before it is mixed with the vegetable mass; otherwise it can not easily be reduced to sufficient fineness, so as to be duly incorporated. Some vegetables are scarce reducible to the requisite fineness by beating in a mortar: such is

orange-peel. This is most conveniently rasped or grated off from the fruit, then well mixed with the sugar, and the compound set by in a close vessel for some weeks; after which, it may be beaten smooth with considerably less labour than at first. This *peel*, and *red rose-buds*, are commonly ground in a wooden mill made for that purpose.

The conserves of *LUJULÆ*—*ABSINTHII MARITIMI*—*ROSÆ RUBRÆ*—*CORTICIS EXTERIORIS AURANTII HISPALENSIS*—*MENTHÆ SATIVÆ*—*RUTÆ*—are to be made in the following manner :

Pluck the leaves from the foot-stalks; and the unblown petal from the calyx, cutting off the heels. Take off the outer rind of the orange-peel with a grater. When they are thus prepared, bruise them with a wooden pestle in a marble mortar, with three times their weight of double refined sugar, until they are mixed.

CONSERVA ARI.

Conserve of arum, or cuckoo-pint.

Take of

The fresh root of arum, bruised, half a pound ;

Double-refined sugar, one pound and a half.

Beat them together in a mortar.

The *pulvis ari compositus* used to be kept in the shops ; but the activity of arum is almost wholly lost by drying ; hence has it been rejected, and this conserve prescribed in its stead, which is the best form it can be preserved in.

It may be given to adults in doses of a dram. Arum in its recent state is a medicine of great activity, and was held in high estimation by SYDENHAM, who prescribed it much in rheumatic cases.

CONSERVA SCILLÆ.

Conserve of squills.

Lond. Edinb.

Take of

Fresh squills, one ounce ;

Double-refined sugar, five ounces. Beat them together in a mortar into a conserve.

The powder of the dried root, when given in form of a pill or bolus, is considered as a more certain and agreeable mode of exhibition.

The reason why the conserve is made in so small a quantity, is to guard against its variation in strength ; for by long keeping it loses its power in no small degree.

It is given in doses of from half a dram to two scruples ; chiefly as an *expectorant* and *diuretic*.—See *SCILLA* in Mat. Med.

CONSERVA MILLEPEDA- RUM.

Conserve of millepedes.

Take of

Millepedes, alive, one pound ;

Double-refined sugar, two pounds, and a half.

Beat them together into a conserve.

This is perhaps one of the best forms under which millepedes can be given, if they possess those virtues which some practitioners have attributed to them. See *MILLEPEDÆ* in Mat. Med.—And by children, to whom they are frequently prescribed, this conserve may be easily taken, when other forms cannot be introduced. This conserve is so readily made, that it may form an extemporaneous prescription, and need not be kept in the shops.

CONSERVA foliorum LUJULÆ.

Conserve of the leaves of wood-sorrel.
Lond. Edin.

This is a very elegant and grateful conserve ; in taste it is slightly acidulous, with a peculiar flavour, which some resemble to that of green tea. It is taken occasionally, for *quenching thirst*, and *cooling the mouth and fauces*, in complaints where the heat of the body is much increased.

CONSERVA foliorum MEN- THÆ vulgaris.

Conserve of the leaves of spearmint.

Lond.

The conserve of mint retains the taste and virtues of the herb. It is given in *weaknesses of the stomach* and *reachings to vomit*; and not unfrequently does service in some cases of this kind, where the warmer and more active preparations of mint would be less proper.

CONSERVA foliorum RUTÆ.

Conserve of the leaves of rue.

Lond.

This conserve is given from a dram to half an ounce, in *crudities of the primæ viæ*, for *promoting digestion*, and in *hysteric disorders*. It gently stimulates the solids, attenuates viscid juices, and excites the natural secretions. Some have had a great opinion of it, taken in a morning, as a preservative against the effects of contagious air or exhalations.

CONSERVA fummitatum ABSINTHII maritimi.

Conserve of the tops of sea-wormwood.

Lond.

The conserve of wormwood has been celebrated in *dropries*. Matthiolus relates, that several persons were cured by it of that distemper, without the assistance of any other medicine. Where the disorder indeed proceeds from a simple laxity or flaccidity of the solids, the continued use of this medicine may be of some service; as it appears to be an elegant mild corroborant. It is directed to be given in the dose of half an ounce, about three hours before meals.

CONSERVA ROSÆ RUBRÆ.

Conserve of red roses.

L. E.

This is a very agreeable and useful conserve. A dram or two, dissolved in warm milk, are frequently given as a light restringent, in *weakness of the stomach*, and likewise in *coughs* and *phthysical complaints*. In the German Ephemerides, examples are related of very dangerous phthyses cured by the

continued use of this medicine. In one of these cases, twenty pounds of the conserve were taken in the space of a month; and in another, upwards of thirty. Riverius mentions several other instances of this kind. In obstinate catarrhs, and some other affections, it may probably have its uses; but in the true pulmonary consumption little can be expected from it, more than rendering the milk pleasant to the taste, and becoming an agreeable placebo.

CONSERVA flavedinis CORTICIS AURANTII

Hispalensis.

Conserve of the yellow rind of Seville orange peel.

L. E.

This conserve is a very elegant one, containing all the virtues of the peel, in a form sufficiently agreeable, both with regard to the dose and the convenience of taking it. It is a pleasant warm stomachic, and in this intention is frequently used.

CONSERVA FRUCTUS CYDONIATIS.

Conserve of hips.

L. E.

Hips require less sugar for reducing them into a conserve, than the substances above enumerated. Twelve ounces of the pulp of the ripe fruit are to be mixed with only twenty ounces of sugar.

The conserve of hips is of some esteem, as a soft cooling restringent. Three or four drams or more are given at a time, in *bilious fluxes*, *sharpness of urine*, and *hot indispositions of the stomach*. A good deal of care is requisite on the part of the apothecary in making this conserve: the pulp is apt to carry with it some of the prickly fibres with which the inside of the fruit is lined. If these be retained in the conserve, they will irritate the stomach, so as to occasion vomiting, and create a pruritus about the anus.

CONSERVA PRUNI SILVES-
TRIS.*Conserve of the sloe.**London.*

Let the sloes be put into water, and set over the fire till they grow soft, with care that they do not burst. Then take the sloes out of the water, press out their pulp, and with thrice its weight of double-refined sugar make a conserve.

This preparation is a *gentle astringent*, and may be given as such in the dose of two or three drams.

The degree of its astringency will vary according to the maturity of the sloes, and the length of time that the conserve has been kept.

All conserves are best kept in close vessels, particularly those of ARUM and SQUILLS.

S E C T. II.

SYRUPS.

SYRUPS are saturated solutions of sugar, made in water, or watery or vinous infusions, or in juices. They were formerly considered as medicines of much greater importance than they are thought to be at present. Syrups and distilled waters were for some ages made use of as the great alteratives; insomuch that the evacuation of any peccant humour was never attempted, till by a due course of these it had first been regularly prepared for expulsion. Hence arose the exuberant collection of both, which we meet with in Pharmacopœias; and like errors have prevailed in each. As multitudes of distilled waters have been compounded from materials unfit to

give any virtue over the helm; so numbers of syrups have been prepared from ingredients which in this form cannot be taken in sufficient doses to exert their virtues; for two-thirds of a syrup consist of sugar, and the greatest part of the remaining third is an aqueous fluid.

Syrups are at present chiefly regarded as convenient vehicles for medicines of greater efficacy; and made use of for sweetening draughts and julaps, for reducing the lighter powders into boluses, pills, or electuaries, and similar purposes. Some likewise may not improperly be considered as medicines themselves; as syrup of *buckthorn-berries*, *garlick*, *squill*, *colchicum*, *white poppy*, &c.

General Rules for preparing Syrups.

I.

All the rules laid down for making decoctions, are likewise to be observed in the decoctions for syrups. Vegetables, both for decoctions and infusions, ought to be dry, unless expressly ordered otherwise.

II.

In both the London and Edinburgh Pharmacopœias only the purest or double-refined sugar is allowed.

In the syrups prepared by boiling, it has been customary to perform the clarification with whites

of eggs, after the sugar had been dissolved in the decoction of the vegetable. This method is apparently injurious to the preparation, since not only the impurities of the sugar are thus discharged; but a considerable part likewise of the medicinal matter, which the water had before taken up from the ingredients, is separated along with them. Nor indeed is the clarification and despumation of the sugar, by itself, very adviseable; for its purification by this process is not so perfect as might be expected; after it has undergone this process, the refiners still separate from it a quantity of oily matter, which is disagreeable to weak stomachs. It appears therefore most eligible to employ fine sugar for all the syrups; even the purgative ones (which have been usually made with coarse sugar, as somewhat coinciding with their intention) not excepted; for, as purgative medicines are in general ungrateful to the stomach, it is certainly improper to employ an addition which increases their offensiveness.

III.

Where the weight of the sugar is not expressed, twenty-nine ounces thereof are to be taken to every pint of liquor. The sugar is to be reduced into powder, and dissolved in the liquor by the heat of the water-bath, unless ordered otherwise: then set the syrup aside for twenty-four hours, and if there are any fæculencies, pour the syrup from them. When pure water only is used, it forms the *Syrupus simplex* of the London, and the *Syrupus sacchari* of the Edinburgh, Pharmacopœia.

Although in the formulæ of several of the syrups a double weight of sugar to that of the liquor is directed, yet less will generally

be sufficient. First therefore dissolve in the liquor an equal weight of sugar, then gradually add some more in powder, till a little remains undissolved at the bottom, which is to be afterwards incorporated by setting the syrup in a water-bath.

The quantity of sugar should be so much, that the liquor may keep dissolved in the cold: if there be more, a part of it will separate, and concrete into crystals, or candy; if less, the syrup will be subject to ferment; especially in warm weather, and change into a vinous or sour liquor. If, in crystallizing, only the superfluous sugar separated, it would be of no inconvenience; but, when part of the sugar has candied, the remaining syrup is found to have an under proportion, and is as subject to fermentation as if it had wanted sugar at first.

IV.

Copper vessels, unless well tinned, should not be employed in the making of acid syrups, or such as are composed of the juices of fruits.

The confectioners, who are the most dextrous people at these kinds of preparations, to avoid the expense of frequently new-tinning their vessels, rarely make use of any other than copper ones untinned, in the preparation even of the most acid syrups, as of oranges and lemons. Nevertheless, by taking due care that their coppers be well scoured and perfectly clean, and that the syrup remain no longer in them than is absolutely necessary, they avoid giving it any ill taste or quality from the metal. This practice however is by no means to be recommended to the apothecary.

V.

The syrup, when made, is to be

set by till next day; if any saccharine crust appear upon the surface, take it off.

SYRUPUS ACETI.

Syrup of vinegar.

Edinb.

Take of

Vinegar, two pounds and a half;
Refined sugar, three pounds and a half.

Boil, till a syrup be formed.

This is often employed in mucilaginous mixtures, and farinaceous infusions and decoctions, in common colds and coughs; and gives these liquids a very agreeable taste, and is useful in being in some degree a diaphoretic. Where honey disagrees, it may very well supply the place of the *Acetated honey*.

SYRUPUS ex ALLIO.

Syrup of garlick.

Take of

Garlick, sliced, one pound;
Boiling water, two pounds.

Macerate them in a close vessel for one hour, then strain off the liquor, and dissolve in it a proper quantity of sugar, so as to make a syrup.

This syrup is occasionally made use of for *attenuating viscid phlegm*, and *promoting expectoration in humoral asthmas*, and *oppressions of the breast*. In these cases, it proves a medicine of considerable efficacy, though a very unpleasant one; it tastes and smells strongly of the garlic. It well supplies the place of the *Oxymel ex allio*, for the use of those with whom honey disagrees.

SYRUPUS ALTHÆÆ.

Syrup of marshmallows.

Lond.

Take of

The fresh root of marshmallows, bruised, one pound;
Double-refined sugar, four pounds;

Distilled water, one gallon.

Boil the water with the roots to one half; when grown thoroughly cold, pour off and press out

the decoction, and set it by for twenty-four hours for the sacculencies to settle; then pour off the clear liquor; add the sugar, and boil the whole to the weight of six pounds.

Edinb.

Take of

Marshmallow roots, somewhat dried, nine ounces;

Purest sugar, four pounds;

Water, ten pounds.

Boil the water with the roots to the consumption of one half; then strain the liquor by strongly expressing it: after it has stood long enough for the fæces to subside, and it is free from dregs, pour off the clear liquor from the sediment, and boil it with the sugar so as to make a syrup.

The syrup of marshmallows is used chiefly in *nephritic cases* for *sweetening emollient decoctions*, and in tickling coughs from irritating fluxions on the fauces; and is of service from its inviscating such matter, and sheathing the parts over which it passes. Of itself, it can do little service, notwithstanding the high opinion which some have entertained of it; for what can be expected from two or three spoonfuls of the syrup, when the decoction from which two or three pounds are made, may be taken at a draught or two?

SYRUPUS CINNAMOMI.

Syrup of cinnamon.

Take of

Cinnamon, bruised, five ounces;
Spirituuous cinnamon-water, two pounds.

Digest them in a close vessel for twenty-four hours; then add to the strained liquor three pounds of double-refined sugar, and boil it to a syrup.

This syrup is strongly impregnated with the cinnamon, and may be of use where we want to employ an aromatic sweet to render any medicinal composition agreeable to

the palate, in such cases where mild stimulants are prohibited.

SYRUPUS e CORTICE AURANTII.

Syrup of orange-peel.
Lond.

Take of

The yellow rind of Seville-orange peel, fresh, eight ounces;
Boiling water, five pints.

Macerate them for a night in a close vessel, strain out the liquor, and dissolve in it the proper quantity of sugar for making it into a syrup.

Edinb.

Take of

The yellow rind of orange-peel, fresh, six ounces;
Boiling water, three pounds.

Infuse them for a night in a close vessel, then strain the liquor, let it stand to settle, and, having poured it off clear from the sediment, dissolve therein twice its weight of white sugar, so as to make it into a syrup, with a gentle heat.

In making this syrup, it is particularly necessary, that the sugar be previously powdered and dissolved in the infusion with as gentle a heat as possible, to prevent the exhalation of the volatile parts of the peel. With these cautions, the syrup proves a very elegant and agreeable one, possessing great share of the fine flavour of the orange-peel.

SYRUPUS TOLUTANUS;

formerly

SYRUPUS BALSAMICUS.

Syrup of Tolu.

Lond.

Take of

Balsam of Tolu, eight ounces;
Water, three pints.

Boil for two hours in a close vessel, strain the liquor, and add a proper quantity of double-refined sugar to make it into a syrup.

The coction may be conveniently performed in a retort, with a receiver adapted to it, the liquor which comes over being occasionally poured back; or the water may be entirely drawn off, and the sugar dissolved in the distilled liquor.

SYRUPUS BALSAMICUS.

Edinb.

Take of the

Syrup of sugar, just made, and warm from the fire, two pounds;

Tincture of balsam of Tolu, one ounce;

When the syrup has grown almost cold, stir into it the tincture, by little at a time, agitating them well together, till perfectly united.

This method of making the balsamic syrup was dropt in one of the preceding editions of the Edinburgh Pharmacopœia, on a complaint that the spirit spoiled the taste of the syrup; which it did in a great degree when the tincture was drawn with malt spirits; the nauseous oil, with which all the common malt spirits are accompanied, being left in the syrup after the evaporation of the pure spirituous part. Particular care therefore should be taken, that the spirit employed for making the tincture be perfectly clean, and well rectified from all ill flavour.

The intention of the contrivers of the two foregoing processes seems to have been somewhat different. In the first, the more subtile and fragrant parts of the balsam are extracted from the grosser resinous matter, and alone retained in the syrup; the other syrup contains the whole substance of the balsam, in larger quantity. They are both moderately impregnated with the agreeable flavour of the balsam.

In some Pharmacopœias, an ele-

gant syrup of this kind is prepared from a tincture of balsam of Peru, with rose-water, and a proper quantity of sugar.

SYRUPUS CARYOPHYLLI RUBRI.

Syrup of clove july-flower.
Lond.

Take of fresh

Clove july-flowers, two pounds ;
Boiling water, six pints.

Macerate them for twelve hours in a glass vessel ; strain the liquor without expression, and dissolve therein its due proportion of double-refined sugar, to make it into a syrup.

Edinb.

One pound of the flowers fresh gathered, and freed from their husks, is to be infused in four pounds of water, and the syrup made with the addition of seven pounds and a quarter of the purest sugar, dissolved by a gentle heat.

This syrup is of an agreeable flavour, and a fine red colour ; and for these it is chiefly valued.

SYRUPUS COLCHICI.

Syrup of colchicum.
Edinb.

Take of

The root of colchicum, fresh and succulent, and cut into small pieces, one ounce ;

Vinegar, sixteen ounces.

Macerate the root in the vinegar two days, shaking the vessel often ; then strain the liquor by gentle pressure, and add the sugar powdered ; boil it gently to the consistence of a syrup.

This appears to be the best preparation of this root, in the taking of which great care should be observed with respect to the properest season, as much depends upon that ; to an error in this the uncertainty of its effects has been ascribed. The bulbous root should be

taken up in autumn, as it is supposed then to be in its highest perfection.

The syrup is often employed as a successful diuretic, and may be taken from one or two drams, to an ounce or more. See COLCHICUM, *Materia Medica.*

SYRUPUS CROCI.

Syrup of saffron.
Lond.

Take of

Saffron, one ounce ;
Boiling distilled water, one pint.

Macerate the saffron in water for twelve hours, in a close vessel, and dissolve the double-refined sugar in the strained liquor, that it may be made a syrup. This syrup has been considered a pleasant cordial ; but its chief use depends more upon its colour than any medicinal power it possesses.

SYRUPUS CYDONIORUM.

Syrup of quinces.

Take of

Quince-juice, depurated, three pints ;
Cinnamon, one dram ;
Cloves,
Ginger—each half a dram ;
Red port wine, one pint ;
Double-refined sugar, nine pounds.

Digest the juice with the spices, in the heat of ashes, for six hours ; then, adding the wine, pass the liquor through a strainer ; and afterwards dissolve in it the sugar, so as to make a syrup.

If the quinces be kept for some time in an airy place, before the juice is pressed out, the syrup proves rather more elegant, and richer of the fruit, than when they are taken fresh from the tree. In either case, the preparation is a very agreeable mild *refrigrant* ; and in

some kinds of loosenesses and disorders of the stomach may be either taken by itself, in the quantity of a spoonful or two at a time, or employed for reconciling to the palate and stomach medicines of the more ungrateful kind.

SYRUPUS KERMESINUS.

Syrup of kermes.

Edinb.

This syrup is brought to us ready-made, from the southern parts of France.

The syrup of kermes is of an agreeable taste, and a fine red colour. It is accounted cordial and corroborant, and supposed to be particularly serviceable in weaknesses and other disorders of pregnant women.

SYRUPUS LIMONIS SUCCI.

Syrup of lemon-juice.

Lond.

Take of

Juice of lemons, suffered to stand till the fæces have subsided, two pints;

Double-refined sugar, fifty ounces.

Dissolve the sugar that it may make a syrup.

Edinb.

Take of

Lemon-juice, depurated, two pounds and a half;

Double-refined sugar, fifty ounces;

Dissolve the sugar in the juice so as to make a syrup.

After the same manner are prepared

SYRUPUS MORI.

Syrup of mulberries [L.]

SYRUPUS FRUCTUS RUBI IDÆI.

Syrup of raspberries [L.]

SYRUPUS RIBIS NIGRI.

Syrup of black currants.

All these are very pleasant cooling syrups, and in this intention are occasionally made use of in draughts and julaps, for quenching thirst, abat-

ing heat, &c. in bilious or inflammatory distempers. They are sometimes likewise employed in gargarisms for inflammations of the mouth and tonsils.

SYRUPUS PAPAVERIS ALBI;

formerly

SYRUPUS e MECONIO, five DIACODION.

Syrup of white poppy.

Lond.

Take of

White poppy heads, dried, three pounds and a half;

Water, eight gallons.

Double-refined sugar, six pounds.

Cut the poppy, and bruise it; then add the water, and boil to three gallons in a water bath saturated with salt: press out the liquor, and reduce it by boiling to about four pints; and strain while hot, first through a sieve, and then through thin woollen cloth; set it aside for twelve hours, that the fæculencies may subside. Pour the liquor from the sediment, boil it to three pints, and dissolve the sugar in it to make a syrup.

SYRUPUS PAPAVERIS ALBI, seu de MECONIO, vulgo DIACODION.

Syrup of white poppies, or of meconium, commonly called diacodium.

Edinb.

Take of

White poppy heads, dried, and freed from their seeds, two pounds;

Boiling water, thirty pounds;

Purest sugar, four pounds.

Macerate the heads, cut into small pieces, for a night; afterwards boil it till one-third part only of the liquor remains; strain it, and strongly press out the remainder. Boil the strained liquor to one half, and strain it again; then add the sugar, and boil it to a syrup.

It may also be made by dissolving, in two pounds and a half of simple syrup, one dram of the extract of white poppies.

These syrups, impregnated with the opiate matter of the poppy heads, are given to children in doses of two or three drams; to adults, from half an ounce to an ounce and upwards, for *obtunding and incrassating acrimonious humours, easing pains, procuring rest*, and answering the other intentions of mild opiates. Particular care is requisite in their preparation, that they may be always made, as near as possible, of the same strength; and accordingly both the colleges have been very minute in their description of the process.

SYRUPUS PAPAVERIS ERRATICI.

Syrup of wild poppy.
Lond.

Take of

Wild poppy flowers, fresh, four pounds;
Boiling distilled water, four pints and a half.

Put the white poppies by degrees into the water boiling in a water bath, and frequently stir them, until the flowers be thoroughly moistened; then take out the vessel, and macerate for twelve hours; press out the liquor, and set it aside for the fæculencies to subside: afterwards add the proper quantity of double-refined sugar to make it into a syrup.

The design of putting the flowers at first into boiling water, in a vessel placed in a water-bath, before their maceration, is, that they may shrink enough to be all immersed in the water, and stay no longer over the fire than till this effect is produced; lest the liquor become too thick, and the syrupropy.

This syrup has been recom-

mended in *disorders of the breast, coughs, spitting of blood, pleurisies, and other diseases, both as an emollient, and as an opiate*. It is one of the lightest of the opiate medicines, and in this respect so weak, that some have doubted of its having any anodyne quality.

SYRUPUS PECTORALIS.

Pectoral syrup.

Take of

English maidenhair, dried, five ounces;
Liquorice, four ounces;
Boiling water, five pints.

Macerate them for some hours; then strain out the liquor, and, with a proper quantity of double-refined sugar, make it into a syrup.

The title of this composition expresses its medical intention. It has been supposed to soften *acrimonious humours, allay tickling coughs, and promote the expectoration of tough phlegm*.

SYRUPUS ROSÆ:

formerly

SYRUPUS ROSARUM SOLUTIVUS.

Rose-syrup.
Lond.

Take of

The damask rose, dried, seven ounces;
Boiling distilled water, four pints;
Double-refined sugar, six pounds.

Macerate the roses in the water for twelve hours, and strain. Evaporate the strained liquor to two pints and a half, and add the sugar that it may be made a syrup.

SYRUPUS ROSARUM PALLIDARUM.

Syrup of pale roses.
Edinb.

Take of

Pale roses, fresh-gathered, one pound;
Boiling water, four pounds;

White sugar, three pounds.

Macerate the roses in the water for a night; then strain the liquor; and adding to it the sugar, boil them into a syrup.

This syrup may likewise be made from the liquor remaining after the distillation of rose-water, depurated from its fæces.

The liquor remaining after the distillation of roses (provided the still has been perfectly clean) is as proper for making this syrup as a fresh infusion: for the distillation only collects those volatile parts which are dissipated in the air, whilst the infusion is boiling to its consistence. These syrups are *agreeable* and *mild purgatives* for children, in the dose of half a spoonful, or a spoonful. They likewise prove *gently laxative to adults*, and in this intention may be of service in *costive habits*. Its principal use is in solutive glysters.

SYRUPUS DE ROSIS SICCIS.

Syrup of dry roses.

Edinb.

Take of

Red roses, dried, seven ounces;

White sugar, six pounds;

Boiling water, five pounds.

Infuse the roses in the water for a night, then boil them a little, strain out the liquor, and, adding to it the sugar, boil them to the consistence of a syrup.

This syrup is supposed to be *mildly astringent*; but is principally valued on account of its red colour. The London college have omitted it, having retained others at least equal to it in that respect.

SYRUPUS SCILLITICUS.

Syrup of squills.

Edinb.

Take of

Vinegar of squills, two pounds;

White sugar, three pounds and a half.

Make them into a syrup, without boiling.

This syrup used to be made with the addition of cinnamon and ginger, one ounce each: but they often counteracted the intention of the medicine, and did not take off the offensive taste of the squills; they were therefore very judiciously omitted.

It is used chiefly in doses of a spoonful or two, for *attenuating viscid phlegm*, and *promoting expectoration*, which it does very powerfully.

SYRUPUS SPINÆ CERVINÆ.

Syrup of buckthorn.

Lond.

Take of the

Juice of ripe and fresh buckthorn berries, one gallon;

Pimento, powdered, an ounce and a half;

Ginger, one ounce;

Double-refined sugar, seven pounds.

Set the juice by for three days, that the fæculencies may subside, and strain. Macerate the spices in a pint of the strained juice for four hours, and strain. Boil the rest of the juice to three pints, adding towards the end that part in which the spices were macerated. Lastly, put in the sugar, and make the mixture into a syrup.

SYRUPUS E RHAMNO CATHARTICO, seu E SPINA CERVINA.

Syrup of buckthorn.

Edinb.

Take of

The juice of ripe buckthorn berries, depurated, seven pounds and a half;

White sugar, three pounds and a half.

Boil them to the consistence of a syrup.

Both these preparations, in doses

of three or four spoonfuls, *operate as brisk cathartics*. The principal inconveniencies attending them are, their being very unpleasant, and their occasioning a thirst and dryness of the mouth and fauces, and sometimes violent gripes. Both these may be prevented, by drinking liberally of water-gruel, or other warm liquids, during the operation. The ungratefulness of the buckthorn is endeavoured to be remedied in the first of the above prescriptions, by the addition of aromatics, which, however, are scarcely sufficient for that purpose. The second also had formerly an aromatic material for the same intention, a dram of the essential oil of cloves; which, being found ineffectual, is now rejected.

SYRUPUS VIOLÆ.

Violet syrup.
Lond.

Take of

Violets, fresh, two pounds;
Boiling water, five pints;
Purest sugar, seven pounds and a half.

Macerate the violets for twenty-four hours; strain the liquor through thin linen; afterwards adding the due proportion of double-refined sugar, to make it into a syrup.

Edinb.

Take of

Fresh violets, one pound;
Boiling water, four pounds.

Macerate the violets for twenty-four hours in a glass or a glazed earthen vessel, close covered; then strain without expression, and dissolve in it the sugar, so as to make a syrup.

This syrup is of a very agreeable flavour, and in the quantity of a spoonful or two proves to children *gently laxative*. It is apt to lose, in keeping, the elegant blue colour, for which it is chiefly va-

lued; and hence some have been induced to counterfeit it with materials, whose colour is more permanent. This abuse may be readily discovered, by adding to a little of the suspected syrup any acid or alkaline liquor. If the syrup be genuine, the acid will change its blue colour to a red, and the alkali will change it to a green; but if counterfeit, these changes will not happen. It is obvious, from this mutability of the colour of the violet, that the prescriber would be deceived if he should expect to give any blue tinge to acidulated or alkalized julaps or mixtures, by the addition of the blue syrup.

SYRUPUS ZINGIBERIS.

Syrup of ginger.
Lond.

Take of

Ginger, bruised, four ounces;
Boiling distilled water, three pints.

Macerate them for four hours, and strain, and make it into a syrup with a proper quantity of double-refined sugar.

Edinb.

Take of

Ginger, beat, three ounces;
Purest sugar, seven pounds and a half;
Boiling water, four pounds.

Steep the ginger in the water, in a close vessel, for twenty-four hours; then strain the liquor, freed from its fæces, add to it the sugar, and make them into a syrup.

These are agreeable and moderately aromatic syrups, lightly impregnated with the flavour and virtue of the ginger.

CONFECTIO ALKERMES.

Confection of kermes.

Take of

Juice of kermes grains, warmed and strained, three pounds;

Damask rose-water, six ounces
by measure;

Oil of cinnamon, half a scruple;

Double-refined sugar, one pound.

Dissolve the sugar in the rose-water, by the heat of a water-bath, into a syrup; then mix in the juice of kermes, and, after it has grown cold, the oil of cinnamon.

Edinb.

Take of

Syrup of kermes, three pounds;

Yellow Saunders,

Cinnamon—each six drams;

Cochineal, three drams;

Saffron, one dram and a half.

Evaporate the syrup, with a gentle heat, to the consistence of honey; then mix with it the other in-

gredients reduced to a very fine powder.

Both these compositions are elegant and agreeable cordials; the dose, when taken by themselves, is from a scruple to a dram or more. The first has an advantage of mixing uniformly in julaps, without spoiling their transparency, which the powders in the second always do. Particular care ought to be had in the choice of the essential oil, which for the most part is grievously adulterated; it would be convenient to grind the oil with a little of the sugar, before it is added to the other ingredients; for by these means it will mix more perfectly, and not be apt to separate in keeping.

S E C T. III.

MELLITA:

MEDICATED HONEYS.

THE more fixt parts of vegetables, dissolved in watery liquors, may be thence transferred into honey, by mixing the honey with the watery decoction or juice of the plant, and boiling them together till the aqueous part has exhaled, and the honey remains of its original consistence.

Honey, though extolled by some writers for the medical powers it possesses, yet does not appear to have many advantages over sugar, particularly in forming compositions for keeping any time; but rather the reverse, because it is too apt to run into a state of fermentation, much more so than sugar; and in some particular constitutions to

produce very unpleasant effects in the bowels, particularly severe gripings.

It is on these accounts that so few of the medicated honeys are retained in the dispensaries of the present day. The college of Edinburgh has totally rejected them, and that of London has given us but six in the last edition of their Pharmacopœia. But as they are still prescribed by physicians of eminence in many places, those which appear the most active we have here enumerated.

MEL ACETATUM;

formerly

OXYMEL SIMPLEX.

Acetated honey.

Take

Clarified honey, two pounds;
Distilled vinegar, one pint.

Boil them in a glass vessel, with a slow fire, to the consistence of a syrup.

This is an agreeable mild, cooling medicine. It is often used in detergent gargarisms, and frequently as an expectorant. Joined with a moderate portion of the syrup of white poppy, it is an excellent medicine for a tickling cough.

MEL ROSÆ;

formerly

MEL ROSACEUM.

Rose-honey.

Take of

Red roses, dried, four ounces;
Distilled boiling water, three pints;

Clarified honey, five pounds.

Macerate the roses in the water for six hours, and strain; then mix the honey with the liquor, and boil them to the consistence of a syrup.

This preparation is not unfrequently made use of as a *mild cooling detergent*, particularly in gargarisms for *ulcerations and inflammation of the mouth and tonsils*.

OXYMEL *ex* ALLIO.

Oxymel of garlick.

Take of

Garlick, cut in slices, an ounce and a half;

Caraway seeds,

Sweet fennel seeds — each two drams;

Vinegar, half a pint;

Clarified honey, ten ounces by weight.

Boil the vinegar, for a little time, with the seeds bruised, in a glazed earthen vessel; then add the garlick, and cover the vessel close: when grown cold, press out the liquor, and dissolve in it the honey by the heat of a water-bath.

This oxymel is recommended for *attenuating viscid juices, promoting expectoration and the fluid secretions in general*. It is doubtless a medicine of considerable efficacy, though very unpleasant; the flavour of the garlick prevailing, notwithstanding the addition of the aromatic seeds.

OXYMEL COLCHICI.

Oxymel of meadow-saffron.

Lond.

Take of

Fresh meadow-saffron, cut into thin slices, one ounce;

Distilled vinegar, one pint;

Clarified honey, two pounds.

Macerate the meadow-saffron in a glass vessel, with a gentle heat, for forty-eight hours. Press out the liquor strongly from the root; then strain it, and add honey. Lastly, boil the mixture, frequently stirring it with a wooden spoon, to the consistence of a syrup.

Dose—3ʒs to 3j.

This is a very active medicine, nearly similar to the *Syrupus colchici*; though, perhaps, not so agreeable to some constitutions, to which honey is offensive; but in many it will answer similar purposes, and prove to possess equal diuretic powers.

OXYMEL PECTORALE.

Pectoral oxymel.

Edinb.

Take of

Elecampane roots, one ounce;

Florence orris roots, half an ounce;

Gum ammoniacum, one ounce;

Vinegar, half a pint;

Clarified honey, one pound;

Water, three pints.

Let the roots, cut and bruised, be boiled in the water till one-third be wasted; then strain off the liquor, let it stand to settle, and having poured it off clear from the sæces, add to it the honey,

and the ammoniacum, previously dissolved in the vinegar. Mix them together, by boiling them a little.

The title of this composition expresses its medical virtues. It is designed for *those disorders of the breast that proceed from a load of viscid phlegm, and obstructions of the pulmonary vessels.* Two or three spoonfuls may be taken every night and morning, and continued for some time.

OXYMEL SCILLITICUM.

Oxymel of squills.

Lond.

Take of

Clarified honey, three pounds;
Vinegar of squills, two pints.

Boil them in a glazed vessel, with a slow fire, to the consistence of a syrup.

The honey was formerly employed for this preparation unclarified; and the scum, which in such cases arises in the boiling, taken off. By these means, the impurities of the honey were discharged; but some of the medicinal parts of the squills, with which the vinegar was impregnated, were also separated. For this reason the college both of London and Edinburgh has now judiciously ordered the honey, for all these kinds of preparations, to be previously clarified by itself.

Oxymel of squills is an *useful aperient, detergent, and expectorant*, and of great service in *humoural asthmas, coughs*, and other disorders, where thick phlegm abounds. It is given in doses of 3*ss* to 3*j* or more, along with some aromatic water, as that of cinnamon, to pre-

vent the great nausea which it would otherwise be apt to excite. In large doses, it proves emetic.

MEL SCILLÆ.

Honey of squill.

Lond.

Take of

Clarified honey, three pounds;
Tincture of squills, two pints.

Digest them in a glass vessel to the consistence of a syrup.

This will possess all the powers of the squill, and may be used as an *expectorant*, and *diuretic*; in the same cases as the squill itself.

OXYMEL ÆRUGINIS;

formerly

MEL ÆGYPTIACUM.

Oxymel of verdigris.

Take of

Prepared verdegriis, one ounce;
Vinegar, seven ounces by measure;

Clarified honey, fourteen ounces by weight.

Dissolve the verdigris in the vinegar, and strain through linen; then add the honey, and boil down the mixture to a proper consistence.

The complaint of the diversity of the strength of the different parts of the *Mel Ægyptiacum* is in this preparation perfectly removed. It is intended only as an external application for cleansing foul ulcers, and keeping down fungous flesh. It has been recommended in venereal ulcerations of the mouth and throat. But great care should be taken that no portion of the verdigris gets into the stomach; for a very small quantity will produce dangerous, and perhaps fatal effects, on that organ.

CHAPTER V.

Separation and collection of those parts of vegetable and animal substances, which are volatile in the heat of boiling water.

THERE are many vegetable, and some animal substances, whose virtues reside, wholly or in part, in a matter which is capable of totally exhaling in the heat of boiling water. In most of the processes hitherto described, it has been endeavoured, as much as possible, to preserve this volatile matter along with the more fixt parts; whether those fixt parts were themselves medicinal, or only subservient to the union of the volatile matter with the fluids employed. The aim, in the present chapter, will

be to completely separate this volatile subtile principle, and collect its pure from the grosser fixt parts, either in a concentrated state, or diluted with water or spirit of wine. In its concentrated state, it appears commonly an oil; which, from its containing always the specific odour, and frequently the other medicinal powers, of the subject, is called *essential oil*; in its more dilute state, it will be found in simple distilled water, distilled spirits, and distilled spirituous waters.

S E C T. I.

DIRECTIONS FOR OBTAINING ESSENTIAL OILS.

ESSENTIAL oils are acquired by distillation. A quantity of water is added to the subject, sufficient to prevent its burning; and, in this water, it is likewise macerated a little time before the distillation. The oil comes over along with the water; and either swims on its surface, or sinks to the bottom, according as it is lighter or heavier than that fluid.

The length of the maceration is to be varied according to the texture and compactness of the subject. The most tender subjects scarce require any. Those of a soft and loose texture are to be steeped for two or three days;

and the more viscous ones, for a longer time. The further the maceration is intended to be protracted, the greater quantity of sea-salt must be added. From *viscous substances* the oil may be obtained in a shorter time, by submitting them to a slight, and not too long continued, fermentation. *Seeds* and *spices* are to be bruised, and *woods* to be rasped, previously to the maceration or fermentation.

Essential oils are obtained only from odoriferous substances; but not equally from all of this class, nor in quantity proportionable to their degree of odour; some which, if we were to reason from analogy,

should seem very well fitted for this process, yielding extremely little oil, and others none at all. *Roses* and *camomile-flowers*, whose strong and lasting smell promises abundance, are found, upon experiment, to contain but a small quantity. *The violet* and *jessamine flower*, which perfume the air with their odour, lose their smell upon the gentlest coction, and do not afford the least perceptible mark of oil upon being distilled, unless immense quantities be submitted to the operation at once; whilst *savin*, whose disagreeable scent extends to no great distance, gives out the most oil of almost any vegetable known.

Nor are the same plants equally fit for this operation, when produced in different soils or seasons; or at different times of their growth. Some yield more oil if gathered when the flowers begin to fall off, than at any other time; *lavender* and *rue* for instance. Others, as *sage*, afford the largest quantity when young, before they have sent forth any flowers; and others, as *thyme*, when the flowers have just appeared. All fragrant herbs yield a larger proportion of oil when produced in dry soils and warm summers, than in the opposite circumstances. On the other hand, some of the disagreeable strong-scented ones, as *wormwood*, are said to contain most in rainy seasons and moist rich grounds.

Several of the chemists have been of opinion, that herbs and flowers, moderately dried, yield a greater quantity of essential oil, than if they were distilled when fresh. It is supposed, that the oil being already blended, in fresh plants, with a watery fluid, great part of it remains diffused through the water after the distillation, divided into particles too minute to unite and be collected; whereas, in drying, the oily parts, on the exhalation of the moisture which kept them di-

vided and dispersed, run together into globules, which have little disposition to mingle with watery fluids, and easily separate from the water employed in the distillation.

This theory, however, does not appear to be altogether satisfactory; for though the oil be collected in the subject into distinct globules, it does not rise in that form, but resolved into vapour, and blended and coagitated by the heat with the vapour of the water; and if the oil in a dry plant were less disposed to unite with aqueous fluids than in a fresh one, the dry ought to yield a weaker infusion than the fresh; the contrary of which is generally found to obtain. As the oil of the dry plant is most perfectly extracted and kept dissolved by the water before the distillation, I can see no reason why it should have a greater tendency to separate from the water afterwards.

The opinion of dry plants yielding most oil, seems to have arisen from an observation of HOFFMANN, which has, I think, been misunderstood: "A pound," he says, "of dry spike-flowers yields an ounce of oil; but if they were distilled fresh, they would scarcely yield above half an ounce; and the case is the same in balm, sage, &c. The reason is, that in drying the watery humidity exhales; and as from two pounds of a fresh plant we do not obtain above one pound of dry, and little of the subtile oil evaporates in the drying, it follows, that more oil ought to be afforded by the dry than by the fresh." The meaning of which I apprehend to be no more than this: that if two pounds of a fresh plant be, by drying, reduced to one, without any loss of the oil, then the one pound dry ought to be equivalent to the two fresh. A later

writer quotes an experiment of NEUMANN, which appears to be misunderstood in the same manner; for NEUMANN, in the place referred to, says only, that dry wormwood is found to yield much more oil than an *equal weight* of the fresh plant. I do not recollect any instance, in which fresh and dry plants have been brought to a fair comparison, by dividing the quantity of the subject into two equal weights, and distilling one while fresh, and the other after it has been carefully and moderately dried.

But whatever may be the effect of moderate exsiccation, it is certain, that, if the drying be long continued, the produce of oil will be diminished, its colour altered, and its smell impaired.

With regard to the proportion of water, if whole plants, moderately dried, be used, or the shavings of woods, as much of either may be put into the vessel, as, lightly pressed, will occupy half its cavity; and as much water may be added, as will rise up to two thirds its height. The water and ingredients, altogether, should never take up more than three-fourths of the still; there should be liquor enough to prevent any danger of an empyreuma, but not so much as to be too apt to boil over into the receiver.

The maceration should be continued so long, as that the water may fully penetrate the parts of the subject. To promote this effect, *woods should be thinly shaved across the grain,—roots cut transversely into thin slices,—barks reduced into coarse powder,—and seeds slightly bruised.* Very compact and tenacious substances require the maceration to be continued a week or two, or longer; for those of a softer and looser texture, two or three days are sufficient; whilst some tender

herbs and flowers not only stand not in need of any at all, but are even injured by it.

Whether the addition of sea-salt, as formerly recommended, be of any real service, is greatly to be doubted. The uses generally assigned to it are, to penetrate and unlock the texture of the subject more effectually than simple water could do; and to prevent the fermentation or putrefaction into which the matter is apt to run during the length of time that the maceration is often continued. But sea-salt seems rather to harden and condense, than to soften and resolve, both vegetable and animal subjects; and if it prevent putrefaction, it must, on that very account, be rather injurious than of service. The resolution here aimed at approaches near to a beginning putrefaction; and saline substances, by retarding this, prolong the maceration far beyond the time that would otherwise be necessary. It is in the power of the operator, when he perceives the process coming near this pitch, to put a stop to it at pleasure, by proceeding immediately to distillation. By these means, the whole affair will be finished in a very little time, with at least equal advantage in every other respect; provided the manual operations of pounding, rasping, and the like, which are equally necessary in either case, be scientifically complied with.

Bodies of a very viscous and compact texture are directed, in the Edinburgh Pharmacopœia, to be fermented for some days with a little yeast: half their quantity of water is sufficient for performing the fermentation; so much more as is necessary, is to be added afterwards, before the distillation. This process undoubtedly promotes the resolution of the subject, and the

extrication of the oil ; it rarely happens, however, that *assurances of this kind are needful*. Particular care must be had not to continue the fermentation too long ; or to give a bad flavour to the oil by an ill-chosen ferment, or using too large a quantity of any.

Some chemists pretend, that by the addition of salts and acid spirits they have been enabled to gain more oil from certain vegetable matters, than can possibly be got from them without such assistance. Experiments made on purpose to settle this point seem to prove the contrary. This at least is constantly found to be true ; that, where there is any reason to think the yield to be greater than usual, the quality of the oil is proportionably injured. The quantity of true essential oil in vegetables can by no means be increased ; and what is really contained in them may be easily separated without any addition of this kind. All that saline matters can do in this respect, is, to make the water susceptible of a greater degree of heat than it can sustain by itself, and thus enable it to carry up a gross unctuous matter, not volatile enough to arise with pure water. This gross matter, mingling with the pure oil, increases the quantity, but at the same time must necessarily debase its quality. And indeed, when water alone is made use of, the oil which comes over about the end of the operation is remarkably less fragrant, and of a thicker consistence, than that which arises at the beginning ; distilled a second time, with a gentle heat, it leaves a large quantity of gross, almost insipid, resinous matter behind.

The choice of proper instruments is of great consequence to the performance of this process to advantage. There are some oils, which pass freely over the swan-neck of the

head of the common still : others, less volatile, cannot easily be made to rise so high. For obtaining these last, we would recommend a large low head, having a rim or hollow canal round it. In this canal the oil is detained on its first ascent (and thence conveyed at once into the receiver) ; the advantages of which are sufficiently obvious.

With regard to the fire, the operator ought to be expeditious in raising it at first, and to keep it up, during the whole process, of such a degree, that the oil may freely distil ; otherwise, the oil will be exposed to an unnecessary heat, a circumstance which ought as much as possible to be avoided. Fire communicates to all these oils a disagreeable impression, as is evident from their being much less grateful when newly distilled, than after they have stood for some time in a cool place ; the longer the heat is continued, the more alteration it must produce in them.

The greater number of oils require for their distillation the heat of water strongly boiling ; but there are many also which rise with a considerably less heat : such as those of *lemon-peel, citron-peel, oils of the flowers of lavender and rosemary*, and of almost all the more odouriferous kinds of flowers. We have already observed, that these flowers have their fragrance greatly injured, or even destroyed, by beating or bruising them. It is impaired also by the immersion in water, in the present process ; and the more so in proportion to the continuance of the immersion and the heat. Hence these oils, distilled in the common manner, prove much less agreeable in smell than the subjects themselves. For the distillation of substances of this class, I have contrived another method. Instead of being immersed

in water, they are exposed only to its vapour. A proper quantity of water being put into the bottom of the still, the odoriferous herbs or flowers are laid lightly in a basket, of such a size that it may enter into the still and rest against its sides, just above the water. The head being then fitted on, and the water made to boil, the steam, percolating through the subject, imbibes the oil, without impairing its fragrance, and carries it over into the receiver. Oils thus obtained possess the odour of the subject in an exquisite degree, and have nothing of the disagreeable scent perceivable in those distilled by boiling them in water in the common manner.

It may be proper to observe, that those oils which rise with a less heat than that of boiling water, are generally called, by the chemical and pharmaceutical writers, *light* oils; and those which require the heat of water strongly boiling, are called *ponderous*. I have avoided these expressions, as they might be thought to relate to the comparative *gravities* of the oils; with which the volatility or fixedness have no connection. Oil-olive is lighter than most of the essential oils; but the heat requisite to make it distil exceeds that in which the heaviest essential oil distils, considerably more than the heat of boiling water exceeds that of ice.

The water employed in the distillation of essential oils, always imbibes some portion of the oil; as is evident from the smell, taste, and colour which it acquires. It cannot however retain above a certain quantity; and therefore such as has been already used, and almost saturated itself, may be advantageously employed, instead of common water, in a second, third,

or any future distillation of the same subject.

Some late chemical writers recommend, not the water which comes over, but that which remains in the still, to be used a second time. This can be of no service; as containing only such parts of the vegetable as are not capable of arising in distillation, and which serve only to impede the action of the water as a *menstruum*, and to endanger an *empyreuma*.

After the distillation of one oil, particular care should be had to duly cleanse the worm before it is employed in the distillation of a different plant. Some oils, those of *wormwood* and *aniseeds* for instance, adhere to it so tenaciously, as not to be melted out by heat, or washed off by water. The best way of cleansing the worm from these, is to run a little spirit of wine through it.

Essential oils, after they are distilled, should be suffered to stand for some days, in vessels loosely covered with paper, till they have lost their disagreeable fiery odour, and become limpid: then put them up in small bottles, which are to be kept quite full, closely stopp'd, in a cool place. With these cautions, they will retain their virtues in perfection for many years.

When carelessly kept, they in time gradually lose their flavour, and become gross and thick. Some endeavour to recover them again, after they have undergone this change, by grinding them with about thrice their weight of common salt, then adding a large proportion of water, and distilling them afresh. The purer part arises thin and limpid, possessing a great degree of the pristine smell and taste of the oil, though inferior in both respects to what the oil was at first. This *rectification*, as it is

called, *succeeds equally without the salt*. The oils, when thus altered, are nearly in the same state with the turpentine, and other thickened oily juices, which readily yield their purer oil in distillation with water alone.

When essential oils have entirely lost their smell, some recommend adding them in the distillation of a fresh quantity of the oil of the same plant; by which means they are said to satiate themselves anew with the odorous matter, and become entirely renovated. This practice, however, ought doubtless to be disapproved, as being no other than a specious sophistication; for it can do no more than to divide, between the old oil and the new, the active matter which belongs to the new alone.

Essential oils, medicinally considered, agree in the general qualities of pungency and heat: in particular virtues, they differ as much as the subjects from which they are obtained; the oil being the direct principle in which the virtues, or part of the virtues, of the several subjects reside. Thus the carminative virtue of the warm seeds,—the emmenagogue of savin,—the nervine of rosemary, the stomachic of mint,—the antiscorbutic of scurvy-grass,—the cordial of aromatics, &c. are concentrated in their oils.

There is another remarkable difference in essential oils, the foundation of which is less obvious; that of the degree of their pungency and heat; which are by no means in proportion, as might be expected, to those of the subject they were drawn from. The oil of cinnamon, for instance, is excessively pungent and fiery; in its undiluted state it is almost caustic:—whereas cloves a spice which in substance is far more pungent than the other,

yields an oil which is far less so. This difference seems to depend partly upon the quantity of oil afforded, cinnamon yielding much less than cloves, and consequently having its active matter concentrated into a smaller volume; partly, upon a difference in the nature of the active parts themselves: for though essential oils contain always the specific odour and flavour of their subjects, whether grateful or ungrateful, they do not always contain the whole pungency: this resides frequently in a more fixt resinous matter, and does not rise with the oil. After the distillation of cloves, pepper, and some other spices, a part of their pungency is found to remain behind: a simple tincture of them in rectified spirit of wine is even more pungent than their pure essential oils.

The more grateful oils are frequently made use of for reconciling to the stomach medicines of themselves disgustful. It has been customary to employ them as correctors for the resinous purgatives; an use to which they do not seem to be well adapted. All the service they can here be of, is to make the resin sit easier at first on the stomach: far from abating the irritating quality upon which the virulence of its operation depends, these pungent oils superadd a fresh stimulus.

Essential oils are never given alone, on account of their extreme heat and pungency: which in some is so great, that a single drop, let fall upon the tongue, produces a gangrenous eschar. They are readily imbibed by pure dry sugar, and in this form may be conveniently exhibited. Ground with eight or ten times their weight of sugar, they become soluble in aqueous liquors, and thus may be diluted to any assigned degree. Mucilages also render them mis-

cible with water into an uniform milky liquor. *They dissolve likewise in spirit of wine*: the more fragrant in an equal weight, and almost all of them in less than four times their own quantity. These solutions may be either taken on sugar, or mixed with syrups, or the like: on mixing them with water, the liquor grows milky, and the oil separates.

The more pungent oils are employed *externally against paralytic complaints, numbness, pains and aches, cold tumours*, and in other cases where particular parts require to be heated or stimulated. The *tooth-ache* is sometimes relieved by a drop of these almost caustic oils, received on cotton, and cautiously introduced into the hollow tooth.

In the last edition of the London Pharmacopœia, the following directions are given with regard to the mode of obtaining the ESSEN-

TIAL OILS of
ANISE,
CARAWAY,
JUNIPER BERRY,
LAVENDER,
PEPPERMINT,
SPEAR-MINT,
ORIGANUM,
PENNYROYAL,
ROSEMARY,
SASSAFRAS ROOT.

Let these oils be drawn off by distillation from an alembic with a large refrigeratory; but to prevent an empyreuma, the substance must be macerated in water previous to distillation.

The water which comes over with the oil in distillation, is to be kept for use.

Essential oils are prepared from vegetables in the manner of their distilled waters; but with somewhat less proportion of water: those of the odoriferous kind chiefly from flowers, or plants in a flowering state. The time of ma-

ceration varies with the temperature of the season and texture of the substance, from two or three days to a week, or longer.

The oils are to be separated after distillation, by means of a funnel, the stem of which being stopped by the finger, and the liquor poured into it; the oil, if light, swims at the top; if ponderous, subsides: the undermost, whether oil or water, is by removing the finger first let out, and the uppermost retained by replacing the finger and again closing the stem.

The same directions are to be observed in distilling the essential oils inserted in the following pages, which are not specified in the catalogue of the London College above recited, such as the *Oleum Absinthii, Sabinae, Chamæmeli, Cymini, &c.*

OLEUM ABSINTHII ESSENTIALE.

Essential oil of the leaves of worm-

wood.

Edinb.

This is one of the more ungrateful oils: it smells strongly of the wormwood, and contains its particular nauseous taste; but has little or nothing of its bitterness, this remaining entire in the decoction left after the distillation. Its colour, when drawn from the fresh herb, is a dark green; from the dry, a brownish yellow. This oil is recommended by Hoffmann as a *mild anodyne*, in *spasmodic contractions*: for this purpose he directs a dram of it to be dissolved in an ounce of rectified spirit of wine, and seven or eight drops of the mixture taken for a dose in any convenient vehicle. Boerhaave greatly commends, in *tertian fevers*, a medicated liquor composed of about seven grains of the oil, ground first with a dram of sugar, then with two drams of the salt of wormwood, and afterwards dissolved in six ounces of the distilled water of the same plant. Two

hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then to drink two ounces of the liquor every quarter of an hour till the two hours are expired. By these means, he says, all cases of this kind are generally cured with ease and safety, provided there is no schirrosity or suppuration. With us, the oil of wormwood is employed chiefly as a *vermifuge*, and for this purpose is both applied externally to the belly, and taken internally. It is most conveniently exhibited in the form of pills, which it may be reduced into by mixing it with crumb of bread.

OLEUM SEMINUM ANETHI ESSENTIALE.

Essential oil of dill seeds.

This is a very warm oil; of a flavour not very agreeable, less so than that of the seeds. It is sometimes given as a *carminative*, in *flatulencies*, *colicky pains*, *hiccups*, and the like, from one to three or four drops.

OLEUM SEMINUM ANISI ESSENTIALE.

Essential oil of aniseeds.

L. E.

This oil possesses the taste and smell of the aniseeds in perfection. It is one of the mildest of the distilled oils. Fifteen or twenty drops may be taken at a time without danger, though common practice rarely goes so far as half this number. Its smell is extremely durable and diffusive. Milk drawn from the breast, after taking it, is found impregnated with its odour; and possibly this may be, in part, the foundation of the pectoral virtues usually ascribed to it. In *flatulencies* and *colics*, it is said by some to be less effectual than the seeds themselves.

It is remarkable of this oil, that it congeals, even when the air is not sensibly cold, into a butyrace-

ous consistence: and hence, in the distillation of it, the operator ought not to be over-solicitous in keeping the water in the refrigeratory too cool: it behoves him rather to let it grow somewhat hot, particularly towards the end of the process; otherwise the oil congealing may so stop up the worm, as to endanger blowing off the head of the still; at least a considerable quantity of oil will remain in it.

Dose—five to twelve drops.

OLEUM CARUI ESSEN-

TIALE.

Essential oil of caraway seeds.

L. E.

The flavour of this exactly resembles that of the caraway. It is a *very hot* and *pungent* oil. It is not unfrequently made use of as a *carminative*: and supposed by some to be *peculiarly serviceable* for *promoting urine*, to which it communicates some degree of its smell.

Dose—one to five drops.

OLEUM CARYOPHYLLI AROMATICI ESSENTIALE.

Essential oil of cloves.

L. E.

This oil is so ponderous as to sink in water, and is not easily elevated in distillation: if the water which comes over be returned on the remaining cloves, and the distillation repeated, some more oil will generally be obtained, though much inferior in quality to the first. The oil of cloves is usually described as being “in taste excessively hot and fiery, and of a gold yellow colour.” (*Boerh. Process.*) Such indeed is the composition which we receive under this name from Holland: but the genuine oil of cloves is one of the milder oils: it may be taken with great safety (duly diluted) to the quantity of ten or twelve drops or more. Nor is its colour at all yellow, unless it has been long and carelessly kept, or distilled by too violent a fire. When in perfec-

tion, it is *limpid and colourless*, of a *pleasant, moderately warm, and pungent taste*, and a *very agreeable smell*, much resembling that of the spice itself. The Dutch oil of cloves contains a large quantity of expressed oil, as evidently appears upon examining it by distillation. This however cannot be the addition to which it owes its acrimony. A small proportion of a resinous extract of cloves communicates to a large one of oil a deep-colour, and a great degree of acrimony.

Dose—three to six drops.

OLEUM FLORUM CHAMÆ- MELI ESSENTIALE.

Essential oil of camomile flowers.
Edin.

This is a very pungent oil, of a strong not ungrateful smell, resembling that of the flowers. Its colour is yellow, with a cast of greenish or brown. It is sometimes given in the dose of a few drops, as a *carminative*, in *hysteric disorders*, and likewise as a *vermifuge*. It may be conveniently made into pills with crumb of bread.

OLEUM CINNAMOMI.

Oil of cinnamon.

L. E.

This valuable oil is extremely hot and pungent, of a most agreeable flavour, like that of the cinnamon itself. In cold languid cases, and debilities of the nervous system, it is one of the most immediate cordials and restoratives. The dose is one, two, or three drops; which must always be carefully diluted by the mediation of sugar, &c. for so great is the pungency of this oil, that a single drop let fall upon the tongue, undiluted, produces, as Boerhaave observes, a gangrenous eschar. In the distillation of this oil, a smart fire is required; and the low head, with a channel round it, before recommended for the distillation of the less volatile oils,

is particularly necessary for this, which is one of the least volatile, and which is afforded by the spice in exceeding small quantity. The distilled water retains no small portion of the oil; but this oil being very ponderous, great part of it subsides, from the water, on standing for two or three weeks in a cool place.

Dose—one drop to three.

OLEUM SEMINUM CYMINI ESSENTIALE.

Essential oil of cummin seeds.

This is one of the warmer and less pleasant oils. It is employed chiefly in cold, flatulent, hysteric complaints. It gives its smell strong to the urine, and is supposed peculiarly serviceable for promoting its discharge.

Dose—one to three drops.

OLEUM SEMINUM FENI- CULI ESSENTIALE.

Essential oil of fennel seeds.

The oil obtained from sweet fennel seeds is much more elegant and agreeable than that of the common fennel. It is one of the mildest of these preparations. It is nearly of the same degree of warmth with that of aniseeds; to which it is likewise similar in flavour, though far more grateful. It is given as a *carminative*, in cold indispositions of the stomach; and in some kinds of coughs, for promoting expectoration.

Dose—two to twelve drops.

OLEUM JUNIPERI BACCÆ ESSENTIALE.

Essential oil of juniper berries.

L. E.

This oil is a very warm and pungent one, of a strong flavour, not unlike that of the berries. In the dose of a drop or two, it proves a serviceable *carminative* and *stomachic*. In one of six, eight, or more, a *stimulating detergent*, *diuretic*, and *emmenagogue*. It seems to have somewhat of the nature of the turpentine, or their distilled oil; like

which it communicates a violet smell to the urine.

The oil of these berries resides partly in vesicles spread through the substance of the fruit, and partly in little cells contained in the seeds; when the berry is dry, and the oil hardened into a resinous substance, it becomes visible, upon breaking the seeds, in form of little transparent drops. In order therefore to obtain this oil to advantage, we ought, previously to the distillation, to bruise the berry thoroughly; so as to break the seeds, and entirely lay open the oily receptacles.

Dose—two to ten drops.

OLEUM florum LAVENDULÆ
ESSENTIALE.

Essential oil of lavender flowers.

L. E.

This oil, when in perfection, is very limpid, of a pleasant yellowish colour, extremely fragrant, possessing in an eminent degree the peculiar smell generally admired in the flowers. It is a medicine of great use, both externally and internally, in *paralytic and lethargic complaints, rheumatic pains, and debilities of the nervous system.*

Lavender flowers yield the most fragrant oil, and in considerably the largest quantity, when they are ready to fall off spontaneously, and the seeds begin to shew themselves; the leaves give out extremely little. The flowers may be separated from the rest of the plant, by drying it a little, and then gently beating it: they should be immediately committed to distillation, and the process conducted with a well-regulated gentle heat: too great heat would not only change the colour of the oil, but likewise make a disagreeable alteration in its smell.

Dose—one to six drops.

OLEUM LIMONIS.

Essential oil of lemon-peel.

Lond.

This is a pleasant oil, of a fine

smell, very near as agreeable as that of the fresh peel; it is one of the lightest and most volatile essential oils we have, perfectly limpid, and almost colourless. It is taken in doses of two or three drops, as a *cordial*, in *weakness of the stomach*, &c. though more frequently used as a perfume. It gives a fine flavour to the officinal *Spiritus ammoniæ compositus*, and occasions the soap pills to sit easy on the stomach.

Dose—two to five drops.

OLEUM MACIS ESSENTI-

ALE.

Essential oil of mace.

L. E.

The essential oil of mace is moderately pungent, very subtle and volatile, of a strong aromatic smell, like that of the spice itself: it is thin and limpid, of a pale yellowish colour, with a portion of thicker and darker-coloured oil at the bottom. This oil is celebrated in *vomiting, hiccups, colicky pains*, &c. both given internally and applied externally to the stomach and umbilical region. It is however but rarely made use of, and not often met with in the shops.

Dose—one to four drops.

See also MACIS and NUX MOS-
CHATA.

OLEUM MARJORANÆ
ESSENTIALE.

Essential oil of marjoram leaves.

Edinb.

This oil is very hot and penetrating, in flavour not nearly so agreeable as the marjoram itself: when in perfection, it is of a pale yellow colour; by long keeping, it turns reddish: if distilled with too great a heat, it arises of this colour at first. It is supposed to be peculiarly serviceable in *relaxations, obstructions and mucous discharges of the uterus*: the dose is one or two drops.

**OLEUM MENTHÆ SATIVÆ
ESSENTIALE.**

Essential oil of the leaves of common mint.

L. E.

This oil smells and tastes strongly of the mint, but is in both respects somewhat less agreeable than the herb itself. It is an *useful stomachic medicine*; and not unfrequently exhibited in want of appetite, weakness of the stomach, reachings to vomit, and similar disorders, when not accompanied with heat or inflammation. It is likewise employed externally for the same purposes; and is an excellent ingredient in the stomachic plaster of the shops.

Dose—one drop to five.

OLEUM MENTHÆ PIPERITIDIS ESSENTIALE.

Essential oil of the leaves of peppermint.

Lond.

This possesses the smell, taste, and virtues of the pepper-mint in perfection; the colour is a pale greenish yellow. It is a medicine of great pungency and subtilty; and diffuses, almost as soon as taken, a glowing warmth through the whole system. In colics accompanied with great coldness, and in some hysteric complaints, it is of excellent service.

Dose—two or three drops.

**OLEUM NUCIS MOSCHATÆ
ESSENTIALE.**

Essential oil of nutmegs.

Lond.

The essential oil of nutmegs possesses the flavour and aromatic virtues of the spice in an eminent degree. It is similar in quality to the oil of mace, but somewhat less grateful.

Dose—two to five drops.

OLEUM ORIGANI ESSENTIALE.

Essential oil of the leaves of origanum.

L. E.

This oil has a very pungent acrimonious taste, and a penetrating smell. It has been chiefly employed externally as an *errhine*, and for *easing pains of the teeth*.

OLEUM ESSENTIALE PIPERIS JAMAICENSIS.

Essential oil of Jamaica pepper.

Edinb.

This is a very elegant oil, and may be used as a succedaneum to the oils of some of the dearer spices. It is of a fine pale colour, in flavour more agreeable than the oil of cloves, and not far short of that of nutmegs. It sinks in water, like the oils of some of the eastern spices.

OLEUM PULEGII ESSENTIALE.

Essential oil of the leaves of pennyroyal.

L. E.

This oil, in smell and taste, resembles the original plant: the virtues of which it likewise possesses. It is given in *hysteric cases*, &c.

Dose, from one to five drops.

OLEUM RORISMARINI ESSENTIALE.

Essential oil of rosemary.

L. E.

The oil of rosemary is drawn from the plant in flower. When in perfection, it is very light and thin, pale, and almost colourless: of great fragrancly, though not quite so agreeable as the rosemary itself. It is recommended in nervous and hysteric complaints. Boerhaave holds it in great esteem against *epilepsies* and *suppressions of the uterine purgations*, occasioned by weakness and inactivity.

Dose, from three to five drops.

OLEUM LIGNI RHODII ESSENTIALE.

Essential oil of rhodium.

Edinb.

This oil is extremely odoriferous, and principally employed as a perfume in scenting pomatums, and the like. Custom has not as yet received any preparation of this elegant aromatic wood into internal use.

OLEUM RUTÆ ESSENTIALE.

Essential oil of rue leaves.

Edinb.

The oil of rue has a very acrid taste, and a penetrating smell, resembling that of the herb, but rather more unpleasant. It is sometimes made use of in *hysteric disorders*, and as an *anthelmintic*; as also in *epilepsies proceeding from a relaxed state of the nerves*.

Rue yields its oil very sparingly. The largest quantity is obtained from it *when the flowers are ready to fall off, and the seeds begin to shew themselves*. Suitable maceration, previous to the distillation, is here extremely necessary.

OLEUM SABINÆ ESSENTIALE.

Essential oil of savin leaves.

Edinb.

Savin is one of the plants which yield, without much maceration, a very large quantity of oil; which is a celebrated *uterine* and *emmenagogue*: in *cold phlegmatic habits*, it is undoubtedly a medicine of much service, though not capable of performing what it has been usually represented to do.

Dose—two or three drops, or more.

OLEUM SASSAFRAS RADICIS ESSENTIALE.

Essential oil of sassafras.

L. E.

This is the most ponderous of all the known essential oils, but rises in distillation with sufficient ease: it appears limpid as water, has a moderately pungent taste, a very fragrant smell, exactly resembling that of the sassafras. It stands

greatly commended as a *sudorific*, and for *purifying the blood and juices*: it is likewise supposed to be of service in *humoural asthma*s and *coughs*.

Dose, from two to ten drops.

The decoction remaining after the distillation of the oil affords by inspissation an useful extract. Hoffmann says, he has given it with great benefit, as a *corroborant* in *cathectic cases*, in the decline of *intermitting fevers*, and for *abating hypochondriacal spasms*.

Dose ʒi.

OLEUM TEREBINTHINÆ.

Oil of turpentine.

Lond.

Take of

Common turpentine, five pounds;
Water, four pounds.

Distil the turpentine from the water in a copper alembic.

After the oil has been distilled there remains the *resina flava*, which is only used for external application, to give consistence to plasters, and similar purposes.

This oil is a very hot stimulating medicine. It is sometimes given as a *sudorific* and *diuretic*, in the dose of two or three drops: in large doses, it is apt *greatly to heat the body*, occasion pain of the head, and effusion of the semen and liquor of the prostrate glands. It has nevertheless been taken in considerable doses (along with honey or other convenient vehicles) against *chronic rheumatism*, the *sciatica*, and *lumbago*; and, as it is said, with great success. Some have recommended it against *venereal runnings*: but here it has produced mischievous consequences, inflaming the parts and aggravating the disorder. Care should be taken not to give very large doses; as an instance has been mentioned of bloody urine succeeding the exhibition. EXTERNALLY it is not unfrequently employed against *rheumatic pains*, *aches*, *sprains*,

for *discussing cold tumours*, and *restraining hæmorrhages*.

OLEUM TEREBINTHINÆ RECTIFICATUM.

Rectified oil of turpentine.

L. E.

Take of

Oil of turpentine, one pound;
Distilled water, four pints, or
pounds.

Distil.

OLEUM VINI.

Oil of wine.

Lond.

Take of

Alcohol;

Vitriolic acid—each one pint.

Mix them by degrees, and distil; taking care that no black froth passes into the receiver. Separate the oily part of the distilled liquor from the volatile vitriolic acid. To the oily part add *water of pure kali*, sufficient to correct the sulphureous smell; submit it again to distillation, and draw over what little æther there may be, with a gentle heat. The *oleum vini* remains in the retort, swimming on the watery liquor, from which it is to be separated.

The vitriolic acid should be added to the alcohol by a little at a time, waiting till the first addition is incorporated before another quantity is put in; by which the ensuing heat is inconsiderable, and the combination is effected without inconvenience: otherwise, if they are put together too hastily, great heat and ebullition would be raised, dissipate a part of the mixture, hazard the breaking of the vessel, and endanger the operator.

The chief use which is at present made of the *oleum vini* is to form the *Spiritus ætheris vitriolici compositus*.

Most of the foregoing oils are drawn by our chemists, and easily procurable in a tolerable degree of perfection; those of *cinnamon*, *cloves*,

nutmegs, and *mace*, excepted. These are usually imported: and are for the most part so much adulterated, that it is difficult to meet with such as are at all fit for use.

Nor are the adulterations of these kinds of preparations easily discoverable. The grosser abuses indeed may be readily detected: thus if the oil be mixed with *spirit of wine*, it will turn milky on the addition of water;—if *with expressed oils*, rectified spirit will dissolve the essential, and leave the other behind;—if *with oil of turpentine*, on dipping a piece of paper in the mixture, and drying it with a gentle heat, the turpentine will be betrayed by its smell. But the more subtle artists have contrived other methods of sophistication, which elude all trials of this kind.

Some have looked upon the specific gravity of oils as a certain criterion of their genuineness; and accordingly we have given a table of the gravity of several in page 40. This however is not to be absolutely depended on: for the genuine oils, obtained from the same subjects, oftentimes differ in gravity as much as those drawn from different ones. *Cinnamon* and *cloves*, whose oils usually sink in water, yield, if slowly and warily distilled, an oil of great fragrantcy, which is nevertheless specifically lighter than the aqueous fluid employed in the distillation of it; whilst, on the other hand, the last runnings of some of the lighter oils prove sometimes so ponderous as to sink in water.

As all essential oils agree in the general properties of solubility in spirit of wine, indissolubility in water, miscibility with water by the intervention of certain intermedia, volatility in the heat of boiling water, &c. it is plain that they may be variously mixed with one another, or the dearer sophisticated with the cheaper, without any possibility of

discovering the abuse by any trials of this kind. And indeed it would not be of much advantage to the purchaser, if he had infallible criteria of the genuineness of every individual oil. It is of as much importance, that they be *good*, as that they be *genuine*; for I have often seen genuine oils from incurious distillation, and long and careless keeping, weaker both in smell and taste than the common sophisticated ones.

The *smell* and *taste* seem to be the only certain tests that the nature of the thing will admit of. If a bark should have in every respect the appearance of good cinnamon, and should be proved indisputably to be the genuine bark of the cinnamon tree; yet, if it want the cinnamon flavour, or have it but in a low degree, we reject it; and the case is the same with the oil. It is only from use and habit, or comparisons with specimens of known quality, that we can judge of the goodness either of the drugs themselves, or of their oils.

Most of the essential oils, indeed, are too hot and pungent to be tasted with safety; and the smell of the subject is so much concentrated in them, that a small variation in this respect is not easily distinguished. But we can readily dilute them to any assignable degree. A drop of the oil may be dissolved in spirit of wine; or received on a bit of sugar, and dissolved by that intermedium in water. The quantity of liquor which it thus impregnates with its flavour, or the degree of flavour which it communicates to a certain determinate quantity, will be the measure of the degree of goodness of the oil.

We shall here subjoin some experiments of the quantity of essential oil obtained from different vegetables, reduced into the form of a table. The *first* column contains the names of the respective vegetable substances—the *second* the quantity of each which was submitted to the distillation—and the *third* the quantity of oil obtained. In every other part of this book where pound weights are mentioned, the troy pound of twelve ounces is meant; but these experiments having been all made by a pound of sixteen ounces, it was thought expedient to set down the matter of fact in the original weights; especially as the several materials in the large quantity commonly required for the distillation of oils are purchased by weights of the same kind. But to remove any ambiguity which might arise hence, and enable the reader to judge more readily of the yield, a reduction of the weights is given in the next column; which shews the number of parts of each of the subjects, from which one part of oil was obtained. To each article is affixed the author's name from whom the experiment is taken. The different distillations of one subject, several of which are inserted in the table, shew how variable the yield of oil is, and that the exotic spices, as well as our indigenous plants, do not always contain the same proportion of this active principle: though it must be observed, also, that part of the differences may probably arise from the operation itself having been more or less carefully performed.

Table of the quantity of Essential Oil obtained from different Vegetables.

Agallochum wood	- - 10 lb.	4 dra.	320	Hoff.
Angelica root	- - 1 lb.	1 dra.	128	Carth.
Aniseed	- - 1 lb.	4 dra.	32	Neum.
Aniseed	- - 3 lb.	1 oun.	48	Lewis.
Aniseed	- - 4 lb.	1 oun.	64	Lewis.
Asafœdita	- - 4 oun.	1 dra.	32	Neum.
Calamus aromaticus	- - 50 lb.	2 oun.	185	Hoff.
Calamus aromaticus	- - 1 lb.	2 scrup.	192	Neum.
Caraway seeds	- - 4 lb.	2 oun.	32	Lewis.
Caraway seeds	- - 2 lb.	9 dra.	28½	Lewis.
Caraway seeds	- - 1 cwt.	83 oun.	21½	Lewis.
Carline thistle root	- - 1 lb.	2½scrup.	153	Neum.
Cardamom seeds	- - 1 oun.	1 scrup.	24	Neum.
Carrot seeds	- - 2 lb.	1½dra.	171	Lewis.
Cascarilla	- - 1 lb.	1 dra.	128	Carth.
Camomile flowers	- - 1 lb.	30 gra.	256	Carth.
Common camomile flowers	- 6 lb.	5 dra.	153	Lewis.
Wild camomile flowers	- 1 lb.	20 gra.	384	Carth.
Wild camomile flowers	- 6 lb.	2½dra.	307	Lewis.
Chervil leaves, fresh	- 9 lb.	30 gra.	2304	Neum.
Cedar wood	- - 1 lb.	2 dra.	64	Margg.
Cinnamon	- - 1 lb.	1 dra.	128	Sala.
Cinnamon	- - 1 lb.	2½scrup.	153	Neum.
Cinnamon	- - 4 lb.	6 dr.	85½	Lemery.
Cinnamon	- - 1 lb.	2 dra.	64	Carth.
Cinnamon	- - 1 lb.	8 scrup.	45½	Carth.
Clary seeds	- - 4 lb.	2 dra.	256	Lewis.
Clary in flower, fresh	- 130lb.	3½oun.	594	Lewis.
Cloves	- - 1 lb.	1½oun.	10½	Teichm.
Cloves	- - 1 lb.	2½oun.	7½	Carth.
Cloves	- - 2 lb.	5 oun.	6½	Hoff.
Copaiba balsam	- - 1 lb.	6 oun.	2½	Hoff.
Copaiba balsam	- - 1 lb.	8 oun.	2	Lewis.
Cummin seed	- - 1 bush.	21 oun.		
Dictamnus Creticus	- - 1 lb.	30 gra.	256	Lewis.
Dill seed	- - 4 lb.	2 oun.	32	Lewis.
Elecampane root	- - 2 lb.	3½scrup.	245	Neum.
Elemi	- - 1 lb.	1 oun.	16	Neum.
Fennel seed, common	- 2 oun.	1 scrup.	48	Neum.
Fennel seed, sweet	- 1 bush.	18 oun.		
Galangal root,	- - 1 lb.	1 dra.	128	Carth.
Garlick root, fresh	- - 2 lb.	30 gra.	256	Neum.
Ginger	- - 1 lb.	1 dra.	128	Neum.
Horieradish root, fresh	- 8 oun.	15 gra.	256	Neum.
Hyssop leaves	- - 2 lb.	1½dra.	237	Neum.
Hyssop leaves	- - 1 lb.	½dra.	85	Carth.
Hyssop leaves	- - 1 lb.	2 dra.	64	Carth.

yielded of essential oil

so that one part of oil was obtained from

Hyssop leaves, fresh	- 2 cwt.	6 oun.	597	Lewis.
Hyssop leaves, fresh	- 10 lb.	3 dra.	427	Lewis.
Hyssop leaves, fresh	- 30 lb.	9 dra.	427	Lewis.
Juniper berries	- 8 lb.	3 oun.	42 $\frac{2}{3}$	Hoff.
Juniper berries	- 1 lb.	3 dra.	42	Carth.
Lavender in flower, fresh	- 48 lb.	12 oun.	64	Lewis.
Lavender in flower, fresh	- 30 lb.	6 $\frac{3}{4}$ oun.	72	Lewis.
Lavender in flower, fresh	- 13 $\frac{1}{2}$ cw.	60 oun.	403	Lewis.
Lavender flowers, fresh	- 2 lb.	4 dra.	64	Hoff.
Lavender flowers, dried	- 4 lb.	2 oun.	32	Lewis.
Lavender flowers, dried	- 2 lb.	1 oun.	32	Hoff.
Lavender flowers, dried	- 4 lb.	3 oun.	21 $\frac{1}{3}$	Hoff.
Broad-leaved Lavender	- 4 lb.	1 oun.	64	Hoff.
flowers, dry	- 1 lb.	2 dra.	64	Carth.
Lovage root	- 1 lb.	1 dra.	128	Carth.
Mace	- 1 lb.	5 dra.	25 $\frac{3}{4}$	Neum.
Mace	- 1 lb.	6 dra.	21 $\frac{1}{3}$	Carth.
Marjoram in flower, fresh	8 $\frac{1}{2}$ lb.	3 $\frac{3}{4}$ oun.	347	Lewis.
Marjoram in flower, fresh	13 $\frac{1}{2}$ lb.	3 $\frac{1}{2}$ dra.	493	Lewis.
Marjoram in flower, fresh	34 lb.	1 $\frac{1}{2}$ oun.	362	Lewis.
Marjoram leaves, fresh	- 18 $\frac{1}{2}$ lb.	4 dra.	592	Lewis.
Marjoram leaves, dried	- 4 lb.	1 oun.	64	Hoff.
Masterwort root	- 1 lb.	30 gra.	250	Neum.
Milfoil flowers, dried	- 14 lb.	4 dra.	448	Lewis.
Mint in flower, fresh	- 6 lb.	4 $\frac{1}{2}$ dra.	177	Lewis.
Mint leaves, dried	- 4 lb.	1 $\frac{1}{2}$ oun.	42 $\frac{2}{3}$	Hoff.
Peppermint, fresh	- 4 lb.	3 dra.	170 $\frac{2}{3}$	Lewis.
Myrrh	- 1 lb.	2 dra.	64	Hoff.
Myrrh	- 1 lb.	3 dra.	42 $\frac{2}{3}$	Neum.
Nutmegs	- 1 lb.	1 oun.	16	Hoff.
Nutmegs	- 1 lb.	1 oun.	16	Geoff.
Nutmegs	- 1 lb.	4 dra.	32	Neum.
Nutmegs	- 1 lb.	6 dra.	21 $\frac{1}{3}$	Sala.
Nutmegs	- 1 lb.	5 dra.	25 $\frac{2}{3}$	Carth.
Nutmegs	- 1 lb.	1 dra.	256	Lewis.
Parsley seeds	- 2 lb.	2 oun.	1904	Lewis.
Parsley leaves, fresh	- 238 lb.	2 dra.	512	Lewis.
Parsnip seeds	- 8 lb.	6 dra.	277	Lewis.
Pennyroyal in flower, fresh	13 lb.	6 dra.	42 $\frac{2}{3}$	Lewis.
Black pepper	- 2 lb.	2 $\frac{1}{2}$ dra.	82	Neum.
Black pepper	- 1 lb.	4 scrup.	96	Carth.
Black pepper	- 1 lb.	1 dra.	128	Heister.
Black pepper	- 1 lb.	3 dra.	256	Geoff.
Black pepper	- 6 lb.	30 gra.	16	Neum.
Pimento	- 1 oun.	3 dra.	42 $\frac{2}{3}$	Neum.
Rhodium wood	- 1 lb.	2 dra.	64	Sala.
Rhodium wood	- 1 lb.	3 dra.	42 $\frac{2}{3}$	Sala.
Rhodium wood	- 1 lb.	3 dra.	42 $\frac{2}{3}$	Carth.
Rhodium wood	- 1 lb.	4 dra.	132	Carth.
Rosemary in flower	- 1 cwt.	8 oun.	224	Lewis.
Rosemary leaves	- 1 lb.	2 dra.	64	Sala.
Rosemary leaves	- 1 lb.	3 dra.	42 $\frac{2}{3}$	Sala.

yielded of essential oil

so that one part of oil was obtained from

Rosemary leaves	-	-	3 lb.	3 $\frac{1}{6}$ dra.	121	Neum.
Rosemary leaves	-	-	1 lb.	1 dra.	128	Carib.
Rosemary leaves	-	-	1 lb.	1 $\frac{1}{2}$ dra.	82	Carib.
Rosemary leaves, fresh	-	-	70 lb.	5 oun.	224	Lewis.
Roses	-	-	100 lb.	4 dra.	3200	Tachen.
Roses	-	-	100 lb.	1 oun.	1600	Homb.
Roses	-	-	12 lb.	30 gra.	768	Hoff.
Rue	-	-	10 lb.	2 gra.	640	Hoff.
Rue	-	-	10 lb.	4 dra.	320	Hoff.
Rue in flower	-	-	4 lb.	1 dra.	512	Lewis.
Rue in flower	-	-	60 lb.	2 $\frac{1}{2}$ oun.	507	Lewis.
Rue with the seeds	-	-	72 lb.	3 oun.	384	Lewis.
Saffron	-	-	1 lb.	1 $\frac{1}{2}$ dra.	85 $\frac{1}{2}$	Vogel.
Sage leaves	-	-	1 lb.	5 scrup.	77	Carth.
Sage in flower, fresh	-	-	34 lb.	1 $\frac{1}{2}$ oun.	544	Lewis.
Sage of virtue in flower	-	-	27 lb.	6 dra.	576	Lewis.
Sage of virtue in flower	-	-	8 lb.	1 $\frac{1}{2}$ dra.	681	Lewis.
Sassafras	-	-	6 lb.	1 $\frac{1}{2}$ oun.	55	Hoff.
Sassafras	-	-	6 lb.	2 oun.	48	Neum.
Savin	-	-	2 lb.	5 oun.	6 $\frac{2}{3}$	Hoff.
Saunders, yellow	-	-	1 lb.	2 dra.	64	Carth.
Smallage seeds	-	-	1 lb.	2 $\frac{1}{2}$ scrup.	154	Neum.
Stechas in flower, fresh	-	-	5 $\frac{3}{4}$ lb.	2 dra.	368	Lewis.
Thyme in flower, fresh	-	-	2 cwt.	5 $\frac{1}{2}$ oun.	652	Lewis.
Thyme in flower, dry	-	-	3 $\frac{1}{2}$ lb.	1 $\frac{1}{2}$ dra.	298	Lewis.
Lemon thyme in flower, fresh	-	-	51 lb.	1 $\frac{1}{4}$ oun.	653	Lewis.
Lemon thyme in flower, fresh	-	-	98 lb.	2 $\frac{1}{2}$ oun.	627	Lewis.
Lemon thyme, dried a little	-	-	104 lb.	3 oun.	555	Lewis.
Wormwood leaves, dry	-	-	4 lb.	1 oun.	64	Lewis.
Wormwood leaves, dry	-	-	18 lb.	1 $\frac{1}{2}$ oun.	192	Lewis.
Wormwood leaves, dry	-	-	25 lb.	3 $\frac{1}{2}$ oun.	114	Lewis.
Zedoary	-	-	1 lb.	1 dra.	128	Neum.

yielded of essential oil

so that one part of oil was obtained from

SECT. II.

DIRECTIONS FOR OBTAINING SIMPLE DISTILLED WATERS.

THE effluvia which exhale in the air from many vegetables, particularly from those of the odorous kind, consist apparently of principles of great subtilty and activity, capable of strongly and suddenly affecting the brain and nervous system, especially in those whose nerves are of great sensibility; and likewise of operating, in a slower manner, upon the system of grosser vessels. Thus BOER-

HAAVE observes that in hysterical and hypochondriacal persons, the fragrant odour of the Indian hyacinth excites strange spasms, which the strong scent of the rue relieves:—that the effluvia of the walnut-tree occasion head-achs, and make the body costive:—that those of poppies procure sleep:—and that the smell of bean-blossoms, long continued, disorders the senses. LEMERY relates, from his own knowledge,

that several persons were purged, by staying long in a room where damask roses were drying.

Some of the chemists have indulged themselves in the pleasing survey of these presiding spirits, as they are called, of vegetables; their peculiar nature in the different species of plants; their exhalation into the atmosphere by the sun's heat, and dispersion by winds; their rendering the air of particular places medicinal, or otherwise, according to the nature of the plants that abound. They have contrived also different means for collecting these fugitive emanations, and concentrating and condensing them into a liquid form; employing either the native moisture of the subject, or an addition of water, as a vehicle or matrix for retaining them.

The process which has been judged most analogous to that of nature is the following. The subject fresh gathered, at the season of its greatest vigour, with the morning dew upon it, is laid lightly and unbruised in a shallow vessel, to which is adapted a low head with a recipient. Under the vessel, a live coal is placed, and occasionally renewed, so as to keep up an uniform heat, no greater than that which obtains in the atmosphere in summer, viz. about 85 degrees of Fahrenheit's thermometer. In this degree of heat, there arises, very slowly, an invisible vapour, which condenses in the head into dewy drops and falls down into the receiver, and which has been supposed to be the very substance that the plant would have spontaneously emitted in the open air.

But on submitting to this process many kinds of odoriferous vegetables, I have always found the liquors obtained by it to be very different from the natural effluvia of the respective subjects: they had very little smell, and no re-

markable taste. It appeared that a heat, equal to that of the atmosphere, is incapable of raising in close vessels those parts of vegetables which they emit in the open air. It may therefore be presumed, that, in this last case, some other cause concurs to the effect: that it is not the sun's heat alone, which raises, and impregnates the air with the odorous principles of vegetables, but that the air itself, or the watery humidity with which it abounds, acting as a true solvent, extracts and imbibes them; so that the natural effluvia of a plant may be looked upon as an infusion of the plant made in air. The purgative virtue of the damask rose, and the astringency of the walnut tree, which, as above observed, are in some measure communicated to the air, may be totally extracted by infusion both in watery and spirituous menstrua, but never rise in distillation with any degree of heat; and the volatile odours of aromatic herbs, which are diffused through the atmosphere in the lowest warmth, cannot be made to distil without a heat much greater than is ever found to obtain in a shaded air.

But the reason of this has been attempted to be accounted for, by supposing that the effluvia arising from growing vegetables, are chiefly exhaled by the living energy of the plant; the odoriferous matter is a real secretion, which cannot be performed independent of active vessels; and it is reasonable to allow the same powers for the exhalation of the effluvia, as for the transpiration of their watery parts.

The above process therefore, and the theory on which it is built, appear to be faulty in two points; (1.) in supposing that all those principles, which naturally exhale from vegetables, may be collected by distillation; whereas there are

many which the air extracts in virtue of its dissolving power, and which are artificially separable also by dissolvents only; (2.) in employing a degree of heat insufficient for separating even those parts which are truly exhalable by heat.

The foregoing method of distillation is commonly called *distillation by the cold still*; but those who have practised it, have generally employed a considerable heat. A shallow leaden vessel is filled with the fresh herbs, flowers, &c. which are heaped above it, so that when the head is fitted on, this also may be filled a considerable way. A little fire is made under the vessel, sufficient to make the bottom much hotter than the hand can bear, care being taken only not to heat it so far as to endanger scorching any part of the subject. If the bottom of the vessel be not made so hot as to have this effect on the part contiguous to it, it is not to be feared that the heat communicated to the rest of the included matter will be great enough to do it any injury. By this management, the volatile parts of several odorous plants, as mint, are effectually forced over; and if the process has been skilfully managed, the distilled liquor proves richly impregnated with the native colour and flavour of the subject, without having received any kind of disagreeable impression from the heat made use of.

This process has been chiefly practised in private families; the slowness of the distillation, and the attendance and care necessary for preventing the scorching of some part of the plant, so as to communicate an ungrateful burnt flavour to the liquor, rendering it inconsistent with the dispatch requisite in the larger way of business.

Another method has therefore been used, that by the common still, called, in distinction from the fore-

going, the hot still. Here a quantity of water is added to the plant, to prevent its burning: and the liquor is kept nearly of a boiling heat, or made fully to boil, so that the vapour rises plentifully into the head, and passing thence into a spiral pipe or worm placed in a vessel of cold water, is there condensed, and runs out in drops quickly succeeding one another, or in a continued stream. The additional water does not at all weaken the produce: for the most volatile parts of the subject rise first, and impregnate the liquor that first distils: as soon as the plant has given over its virtue sufficiently, which is known by examining from time to time the liquor that runs from the nose of the worm, the distillation is to be stopt.

This is the method of distillation commonly practised for the officinal waters. It is accompanied with one imperfection, affecting chiefly those waters whose principal value consists in the delicacy of their flavour; this being not a little injured by the boiling heat usually employed, and by the co-agitation of the odorous particles of the subject with the water. Sometimes also a part of the plant sticks to the sides of the still, and is so far scorched as to give an ungrateful taint to the liquor.

There is another method of managing this operation, already recommended for the distillation of the more volatile essential oils, and which is equally applicable to that of the waters. In this method, the advantages of the foregoing ones are united, and their inconveniences obviated. A quantity of water being poured into the still, and the herbs or flowers placed in a basket over it, there can be no possibility of burning; the water may be made to boil, but so as not to rise up into the basket, which

would defeat the intention of this contrivance. The hot vapour of the water passing lightly through all the interstices of the subject, imbibes and carries over the volatile parts unaltered in their native flavour. By these means the distilled waters of all those substances, whose oils are of the more volatile kind, are obtained in the utmost perfection, and with sufficient dispatch; for which last intention the still may be filled quite up to the head.

In the distillation of essential oils, the water, as observed in the foregoing section, imbibes always a part of the oil. The distilled liquors, here treated of, are no other than water thus impregnated with the essential oil of the subject; whatever smell, taste, or virtue, is here communicated to water, or obtained in the form of a watery liquor, being found in a concentrated state in the oil. The essential oil, or some part of it, more attenuated and subtilised than the rest, is the direct principle, on which the title of *Spiritus rector*, or presiding spirit, has been bestowed.

All those vegetables, therefore, which contain an essential oil, will give over some virtue to water by distillation: but the degree of the impregnation of the water, or the quantity of water which a plant is capable of satiating with its virtue, are by no means in proportion to the quantity of its oil. The oil satiates only the water that comes over at the same time with it. If there be more oil than is sufficient for this satiation, the surplus separates, and concretes in its proper form, not miscible with the water that arises afterwards. Some odoriferous flowers, whose oil is in so little quantity, that scarcely any visible mark of it appears, unless fifty or an hundred pounds or more are distilled at once, give never-

theless as strong an impregnation to water, as those plants which abound most with oil.

Many have been of opinion, that distilled waters may be more and more impregnated with the virtues of the subject, and their strength increased to any assigned degree, by *cobobation*, that is, by re-distilling them a number of times from fresh parcels of the plant. Experience, however, shows the contrary; a water skilfully drawn in the first distillation, proves, on every repeated one, not stronger, but more disagreeable. Aqueous liquors are not capable of imbibing above a certain quantity of the volatile oil of vegetables, and this they may be made to take up by one, as well as by any number of distillations. The oftener the process is repeated, the ungrateful impression, which they generally receive from the fire even at the first time, becomes greater and greater. Those plants which do not yield at first waters sufficiently strong, are not proper subjects for this process, since their virtue may be obtained much more advantageously by others.

General rules for the distillation of the officinal simple waters.

I.

Plants and their parts, where they are directed fresh, such only must be employed; but some are allowed to be used dry, as being easily procurable in this state at all times of the year, though rather more elegant waters might be obtained from them whilst green.

II.

When fresh and juicy herbs are to be distilled, thrice their weight of water will be fully sufficient: but dry ones require a much larger quantity. In general, there should be so much water, that after all intended to be distilled has come over,

there may be liquor enough left to prevent the matter from burning to the still.

III.

The distillation may be performed in an alembic with a refrigeratory, the junctures being luted.

IV.

Plants differ so much, according to the soil and season of which they are the produce, and likewise according to their own age, that it is impossible to fix the quantity of water to be drawn from a certain weight of them, to any invariable standard. The distillation may always be continued as long as the liquor runs well flavoured of the subject, and no longer.

If the herbs be of prime goodness, they must be taken in the weights prescribed. But when fresh ones are substituted to dry, or when the plants themselves are the produce of unfavourable seasons, and weaker than ordinary, the quantities are to be varied according to the discretion of the artist.

After the odorous water, alone intended for use, has come over, an acidulous liquor arises, which has sometimes extracted so much from the copper head of the still, as to prove emetic. To this are owing the anthelmintic virtues attributed to certain distilled waters.

V.

In the preceding edition of the Edinburgh Pharmacopœia, some vegetables were ordered to be slightly fermented with the addition of yeast, previously to the distillation.

The principle, on which this management is founded, is certainly just; for the fermentation somewhat opens and unlocks their texture, so as to make them part with more in the subsequent distillation than could be drawn over from them without some assistance

of this kind. Those plants, however, which require this treatment, are not proper subjects for simple waters to be drawn from; their virtues being obtainable to better advantage by other processes.

VI.

If any drops of oil swim on the surface of the water, they are to be carefully taken off.

VII.

That the waters may keep the better, about one-twentieth part of their weight of proof spirit may be added to each, after they are distilled.

A great number of distilled waters was formerly kept in the shops, and are still retained in foreign Pharmacopœias. The faculty of Paris direct, in a late edition of their *Codex Medicamentarius*, no less than one hundred and twenty-five different waters, and one hundred and thirty different ingredients in one single water. Near one half of these preparations have scarcely any virtue or flavour from the subject, and many of the others are insignificant.

The colleges of London and Edinburgh have rejected these ostentatious superfluities; and given an elegant and compendious set of waters, sufficient for answering such purposes as these kinds of preparations are applied to in practice. Distilled waters are employed chiefly as grateful diluents, as suitable vehicles for medicines of greater efficacy, or for rendering disgusting ones more acceptable to the palate and stomach: few are depended on, in any intentions of consequence, by themselves.

AQUA SEMINUM ANETHI.

Dill-seed water.

Lond. and Edinb.

Take of

Dill-seeds, a pound;

Water, as much as is sufficient to prevent an empyreuma.

Draw off one gallon, or ten pints.

This water, which turns out pretty strong of the dill-seeds, is sometimes employed as the basis of carminative juleps. It is similar in flavour to a water drawn from caraway seeds, but less agreeable.

Dose, $\mathfrak{z}2$ to $\mathfrak{z}4$.

The London and Edinburgh Colleges order all the simple waters to be distilled in the same manner; the former drawing off *one gallon*, and the latter *ten pints*, from the quantity of the ingredients specified below.

CORT. CINNAM. $\mathfrak{f}\mathfrak{j}$. L. E.

CORTIC. CASS. Lign. $\mathfrak{f}\mathfrak{j}$. E.

MENTHÆ piperit. florentis, $\mathfrak{f}\mathfrak{z}$. E. $\mathfrak{f}\mathfrak{j}\mathfrak{f}\mathfrak{s}$. L.

———— SATIVÆ florentis, $\mathfrak{f}\mathfrak{z}$. E. $\mathfrak{f}\mathfrak{j}\mathfrak{f}\mathfrak{s}$. L.

PULEGII FLORENTIS, $\mathfrak{f}\mathfrak{z}$. E. $\mathfrak{f}\mathfrak{j}\mathfrak{f}\mathfrak{s}$. L.

FRUCTUS PIMENTÆ, vel PIMENTO, $\mathfrak{f}\mathfrak{f}\mathfrak{s}$. L. E.

{ ROSÆ DAMASCENÆ vel recentis,
PETALORUM ROSACUM PALLIDARUM recentium. } $\mathfrak{f}\mathfrak{f}\mathfrak{6}$.

CORT. LIMON. recent. $\mathfrak{f}\mathfrak{z}$. E.

CORT. AURANT. Hisp. recent. $\mathfrak{f}\mathfrak{z}$. E.

FÆNICULI SEMINUM, $\mathfrak{f}\mathfrak{j}$. L.

The London college considers most of the waters to be distilled from the dry herbs, because they cannot be procured fresh at all times; but whenever they are used, their weight must be increased in proportion. Whether the fresh or dry herbs are employed, the operator is left at liberty to vary the weight, according to the season in which they have been produced

and collected. And after distillation the college of Edinburgh orders half an ounce of proof spirit of wine to be put to every pound or pint of the distilled water.

Besides what the two colleges have adopted, some other waters remain in this work, on account of their apparent utility; and some from the authority by which they are supported; as the

Aq. Castorei, $\mathfrak{z}\mathfrak{j}$.—draw off 2 pints.

Cerefolii rec. $\mathfrak{f}\mathfrak{j}$.—draw off $\mathfrak{f}\mathfrak{f}\mathfrak{8}$.

Ceraforum nigrorum.

Hyssopi.

Melissæ.

Sabinæ.

Rutæ.

which are to be distilled in the same manner as before directed. In these five last the quantity of the ingredients is not specified; therefore any indeterminate portion may be taken; and adding a sufficient quantity of water to avoid an empyreuma, as much may be drawn off as preserves any taste of the ingredient employed. To these therefore, and those above specified, we shall merely speak of the medicinal pur-

poses they seem, in some degree, calculated to answer.

AQUA CASTOREI.

Castor water.

Lond.

Castor yields almost all its flavour in distillation to water; but treated in the same manner with spirit of wine, gives over nothing. The spirit of castor, formerly kept in the shops, had none of the smell or virtues of the drug; whilst the

water here directed proves, when fresh drawn, very strong of it.

It is remarkable, that the virtues of this animal substance reside in a volatile oil, analogous to the essential oils of vegetables. Some are reported to have obtained, in distilling large quantities of the drug, a small portion of oil, which smelt extremely strong of the castor, and diffused its ungrateful scent to a great distance.

This water is made use of in *hysteric cases*, and *some nervous complaints*, though it has not been found to answer what many people expect from it. It loses much of its flavour in keeping.

AQUA CERASORUM NIGRORUM.

Black cherry water.

This is a very grateful water, and has long maintained a place in the shops. It has frequently been employed by physicians as a vehicle in preference to the other distilled waters; and among nurses, and others who have the care of young children, has been the first remedy against the convulsive disorders to which children are so often subject.

This water has nevertheless of late been brought into disrepute, and by some looked upon as poisonous. They observe, that it receives its flavour principally from the cherry-stones; and that these kernels, like many others, bear a resemblance in taste to the leaves of the lauro-cerasus, which have been discovered to yield, by infusion or distillation, the most sudden poison known. Some physicians of Worcester have found, by trial purposely made, that a distilled water very strongly impregnated with the flavour of the cherry kernels (no more than two pints being distilled from fourteen pounds of the cherry stones) proved in like manner poisonous to brutes: the committee of the London college repeated the

same experiment, and found the effects agreeable to those gentlemen's report.

It by no means follows from these trials, nor after such long experience can it be imagined, that black cherry water, when no stronger than the shops have been accustomed to prepare it, is unsafe. These kernels, as the committee observe, plainly resemble opium, and some other things, which poison only when taken in too great a quantity; the water from the very laurel leaves is harmless when duly diluted; and even spirit of wine proves a poison of a kind not greatly different, if drunk to a certain degree of excess. Nor can it be concluded, from the trials with the strong black cherry water on dogs, &c. that even this will have the same effects in the human body; the kernels of many sorts of fruits being in substance poisonous to brutes, though innocent to man.

It is possible, however, that this water in any degree of strength may not be altogether safe to the tender age of infants, where the principles of life are but just beginning as it were to move; it is possible, that it may there have had pernicious effects, without being suspected; the symptoms it would produce, if it should prove hurtful, being such as children are often thrown into from the disease which it is imagined to relieve. On these considerations, both the London and Edinburgh colleges have chosen to lay it aside; more especially as it has been too often counterfeited with a water distilled from bitter almonds, which are known to communicate a poisonous quality.

AQUA CINNAMOMI.

Cinnamon water.

This is a very grateful and useful water, possessing in an eminent degree the fragrance and aromatic cordial virtues of the spice. Great

care should be had, in the choice of the cinnamon, to avoid the too common imposition of substituting casia it its room. This latter yields a water much less agreeable than that of cinnamon, and whose flavour is manifestly empyreumatic. The two drugs may be easily distinguished from one another by the marks laid down under the respective articles in the second part of this work.

The virtues of all these waters depend upon their containing a portion of the oil of the subject. The oil of cinnamon is very ponderous, and arises more difficultly than that of any of the other vegetable matters from which simple waters are ordered to be drawn. This observation directs us, in the distillation of this water, to make use of a quick fire and a low vessel. For the same reason, the water does not keep so well as might be wished; the ponderous oil parting from it in time, and falling to the bottom, when the liquor loses its milky hue, its fragrant smell, and aromatic taste. Some recommend a small proportion of sugar to be added, in order to keep the oil united with the water.

Dose, $\frac{3}{2}$ to $\frac{3}{4}$.

AQUA DISTILLATA.

Distilled water.

Lond.

Take of

Spring water, ten gallons;

Draw off by distillation four pints; which being thrown away, draw off four gallons.

This is the best process for acquiring water, with a degree of purity necessary for answering many medicinal purposes; as it is a means of clearing it from many heterogeneous parts with which water in its native state is unavoidably impregnated. Thus freed, then it is rendered fitter for a variety of pharmaceutical and chemical processes, than when in a state of less purity.

AQUA FENICULI.

Fennel water.

Lond.

This water is sufficiently grateful, and is said to possess *diuretic* and *carminative* powers. It is often given to children, and appears useful in those flatulent complaints to which they are subject. Some have observed, that the upper leaves and tops, before the flower appears, make a more elegant water, and a remarkably finer essential oil, than the lower ones; but no part of the herb is equal in flavour to the seeds.

Dose, $\frac{3}{2}$ to $\frac{3}{4}$.

AQUA HYSSOPI.

Hyssop water.

Edinb.

Hyssop water has been held by some in considerable esteem, as an *uterine* and a *pectoral medicine*. Few at present expect any singular virtues from it, nor is it often made use of, or met with in the shops; but by some it is frequently employed. If it has any efficacy, its powers would be better acquired by infusion or decoction.

AQUA MELISSÆ.

Balm water.

Edin.

In former editions of the Edinburgh Pharmacopœia, this water was ordered to be cohobated, or redistilled from fresh quantities of the herb. This management seems to have been taken from Boerhaave, who has a very high opinion of the water thus prepared. He says, he has experienced, in himself, extraordinary effects from it, taken on an empty stomach; that it has scarce its equal in *hypochondriacal* and *hysterical cases*, the *chlorosis*, and *palpitation of the heart*, as often as these diseases proceed from a disorder of the spirits rather than from any collection of morbid matter.

For my own part, I have already given my opinion with regard to the cohobation of these li-

quors; and shall here only observe, that, whatever virtues are lodged in balm, they may be much more perfectly and advantageously extracted by cold infusion in aqueous or spirituous menstrua: in this process, the liquor suffers no injury from being returned on fresh parcels of the herb; a few repetitions will load it with the virtues of the subject, and render it very rich. The impregnation here is almost unlimited; but in distilled waters it is far otherwise.

AQUA MENTHÆ SATIVÆ.

Simple spearmint water.

Lond.

This water smells and tastes very strong of the mint; and proves, in many cases, a *useful stomachic*. Boerhaave commends it (cohabated) as a present and incomparable remedy, for *strengthening a weak stomach*, and *curing vomiting proceeding from cold viscous phlegm*; as also in *hæmorrhies*.

Dose, $\frac{3}{2}$ to $\frac{3}{4}$.

AQUA MENTHÆ PIPERITIDIS.

Simple pepper-mint water.

This is a very elegant and useful water. It has a warm, pungent taste, exactly resembling that of the pepper-mint itself. A spoonful or two, taken at a time, warms the stomach, and gives great relief in cold, flatulent colics. Some have substituted a plain infusion of the dried leaves of the plant, which is not greatly different in virtue from the distilled water.

Dose, $\frac{3}{2}$ to $\frac{3}{4}$.

AQUA CAMPHORÆ.

Camphor water.

Take of

Camphor, one ounce and a half; let it be dissolved in half an ounce of spirit of rosemary, then pour upon it two pounds of distilled water, and draw off by distillation one pound and a half.

This appears to be intended to

exhibit camphor in a very diluted state, and probably it may agree with many stomachs better in this form than any other; however it is a form by which we may be empowered to try in the easiest manner whether camphor is likely to be offensive or not.

AQUA CEREFOLII.

Chervil water.

The cerefolium is held amongst foreigners in high esteem as a *diuretic* and *aperient*, and has been recommended in *dropsies*. This water, therefore, may be useful in forming a proper menstruum for the exhibition of other medicines more powerfully calculated to be useful in such affections.

AQUA PIMENTO;

formerly

AQUA PIPERIS JAMAICENSIS.

Water of Jamaica pepper.

Lond.

This distilled water is a very elegant one, and has come pretty much into use. The hospitals employ it as a *succedaneum* to the more costly spice waters. It is, however, inferior in gratefulness to the spirituous water of the same spice hereafter directed.

Dose, $\frac{3}{2}$ to $\frac{3}{4}$.

AQUA PULEGII.

Simple penny-royal water.

Lond.

This water possesses, in a considerable degree, the smell, taste, and virtues of the penny-royal. It is frequently taken in hysterical cases, and not without good effects.

Dose, $\frac{3}{3}$ to $\frac{3}{4}$.

AQUA ROSARUM DAMASCENARUM.

Damask rose water.

Lond.

This water is principally valued on account of its fine flavour, which approaches to that generally admired in the rose itself. The

purgative virtue of the roses remains entire in the liquor left in the still, which has therefore been generally employed for making the solutive honey and syrup, instead of a decoction or infusion of fresh roses prepared on purpose: and this piece of frugality the college have now admitted. A distilled water of red roses has been sometimes called for in the shops: and supplied by that of damask roses, diluted with common water. This is a very venial substitution; for the water drawn from the red rose has no quality which that of the damask does not possess in a far superior degree; neither the purgative virtue of the one, nor the astringency of the other, arising in distillation.

Dose, $\frac{32}{34}$.

AQUA RUTÆ.

Rue water.

Rue gives over in this process the whole of its smell, and great part of its pungency. The distilled water stands recommended in *epileptic cases*, the *hysteric passion*, for promoting perspiration, and other natural secretions.

AQUA SABINÆ.

Savin water.

This water is by some held in considerable esteem for the same purposes as the distilled oil of savin. Boerhaave relates, that he has found it (when prepared by cohobation) to give an *almost incredible motion to the whole nervous system*, and that, when properly used, it proves eminently serviceable for *promoting the menses and the hæmorrhoidal flux*.

S E C T. III.

SPIRITUOUS DISTILLED WATERS AND SPIRITS.

THE flavour and virtues of distilled waters are owing, as observed in the preceding section, to their being impregnated with a portion of the essential oil of the subject from which they are drawn. Spirit of wine, considered as a vehicle for these oils, has this advantage above water, that it is their proper menstruum, and keeps all the oil, that rises with it, perfectly dissolved into an uniform limpid liquor.

Nevertheless, many substances, which, on being distilled with water, impart to it their virtues in great perfection, if treated in the same manner with spirit of wine, scarce give over to it any smell or taste. This difference proceeds

from spirit not being susceptible of so great a degree of heat as water. Liquids in general, when made to boil, have received as great a heat as they are capable of sustaining: now, if the extent of heat between freezing and boiling water, as measured by thermometers, be taken for a standard, spirit of wine will be found to boil with less than four-fifths of that heat, or above one-fifth less than the heat of boiling water. It is obvious therefore, that substances may be volatile enough to rise with the heat of boiling water, but not with that of boiling spirit.

Thus, if cinnamon, for instance, be committed to distillation with a mixture of spirit of wine and

water, or with a pure proof spirit, which is no other than a mixture of about equal parts of the two, the spirit will arise first, clear, colourless, and transparent, and almost without any taste of the spice; but as soon as the more ponderous watery fluid begins to arise, the oil comes freely over with it, so as to render the liquor highly odorous, sapid, and of a milky hue.

The proof spirits usually met with in the shops are accompanied with a degree of ill flavour; which, though concealed by means of certain additions, plainly discovers itself in distillation. This nauseous relish does not begin to arise, till after the purer spirituous part has come over; which is the very time that the virtues of the ingredients begin, also, most plentifully to distil: and hence the liquor receives an ungrateful taint. To this cause principally is owing the general complaint, that the cordials of the apothecary are less agreeable than those of the same kind prepared by the distiller; the latter being extremely curious in rectifying or purifying the spirits (when designed for what he calls fine goods) from all ill flavour.

It was usual to direct rectified spirit of wine to be drawn from French brandy, but that is rather too dear an article in this country for distillation; nor is the spirit obtained from it any ways preferable to one procurable from cheaper liquors. The coarser inflammable spirits may be rendered perfectly pure, and fit for the nicest purposes, by the following method.

If the spirit be exceedingly foul, mix it with about an equal quantity of water, and distil with a slow fire; discontinuing the operation as soon as the liquor begins to run

milky, and discovers, by its nauseous taste, that the impure and phlegmatic part is arising. By this treatment, the spirit leaves a considerable portion of its foul oily matter behind it in the water, which now appears milky and turbid, and proves highly disagreeable in taste. If the spirit was not very foul at first, this ablution is not necessary; if extremely so, it will be needful to repeat it once, twice, or oftener.

As vinous spirits arise with a less degree of fire than watery liquors, we are hence directed to employ, in the distillation of them, a heat less than that in which water boils: and if due regard be had to this circumstance, very weak spirits may, by one or two wary distillations, be tolerably well freed from their aqueous phlegm; especially if the distilling vessels be of such a height, that the spirit, by the heat of a water-bath, may but just pass over them. In such case, the phlegmatic vapours which arise for a little way along with the spirit, will condense and fall back again before they can come to the head. Very pompous instruments have been contrived for this purpose, and carried in a spiral or serpentine form to an extraordinary height. The spirit, ascending through these, was to leave all the watery parts it contained, in its passage, and come over perfectly pure and free from phlegm. But these instruments are built upon erroneous principles, their extravagant height defeating the end it was designed to answer. If the liquor be made to boil, a considerable quantity of mere phlegm will come over along with the spirit; and if the heat be not raised to this pitch, neither phlegm nor spirit will distil. The most convenient instrument is the com-

mon still, betwixt the body of which, and its head, an adopter or copper tube may be fixed.

A more highly rectified spirit is made by the following process, and called

ALCOHOL.

Lond.

Take of

Rectified spirit of wine, one gallon;

Prepared kali, made hot, one pound and a half;

Pure kali, one ounce.

Mix the spirit of wine with the pure kali, and afterwards add one pound of hot prepared kali; shake, and digest them for twenty-four hours. Pour off the spirit, and to it add the rest of the prepared kali, and distil in a water-bath. Keep it in a vessel closely stopped.

The prepared kali must be heated to 300°.

The specific gravity of alcohol is to that of distilled-water, as 815 to 1000.

By this process a very pure alcohol is obtained, of which we shall be convinced by comparing the specific gravity of spirit of wine with this, that of the former being 835 to 1000.

Upon digesting the alkaline salts with the spirit for a little time, the alkali, from its known property of attracting water and oils, will imbibe the remaining phlegm, and such part of the disagreeable unctuous matter as may still be left in the spirit, and sink with them to the bottom of the vessel. If the spirit be now again gently drawn over, it will arise entirely free from its phlegm and nauseous flavour;

but some particles of the alkaline salt are apt to be carried up with it, and give what the workmen call an urinous relish. This may be prevented by adding, previously to the last distillation, a small proportion of calcined vitriol, alum, or sal catharticus amarus; the acid of these salts will unite with, and neutralise the alkali, and effectually prevent it from arising; while no more of the acid of the salts is extricated than what the alkali absorbs.

The spirit obtained by these means is extremely pure, limpid, perfectly flavourless, and fit for the finest purposes. It may be reduced to the strength commonly understood by proof, by mixing twenty ounces of it (by weight) with seventeen ounces of water. The distilled cordials made with these spirits prove much more elegant and agreeable than when the common rectified or proof spirits of the shops are made use of.

If the rectified spirit be distilled afresh from dry alkaline salt, with a quick fire, it brings over a considerable quantity of the salt, and in this state is supposed to be a more powerful menstruum, for certain substances, than the pure spirit. This alkalisied spirit is called **TARTARISED SPIRIT OF WINE.**

The general virtues of vinous spirits have been already mentioned in the preceding part. The spirits impregnated with the volatile oils of vegetables, to be treated of in this chapter, have, joined to those, the aromatic, cordial, or other virtues which reside in the oils.

ARTICLE I. *Distilled spirits.*

AQUA CARMELITANA;

vel

AQUA MELISSÆ COMPOSITA.

Compound balm-water, commonly called Eau des Carmes.

Take of

Balm in flower, fresh gathered,
one pound and a half;Lemon-peel, fresh, as soon as
pared from the fruit, four
ounces;

Coriander seeds,

Nutmegs,—each two ounces;

Cloves,

Cinnamon,—each, bruised, one
ounce;

Balm water, three pounds;

Spirit of wine, highly rectified,
six pounds;Digest the several ingredients in
the spirit, three days; and then
draw off, by distillation, six
pounds.

In the *Elémens de Pharmacie* of M. Beaumé, some improvements are proposed of this process. After the spirit, added to the ingredients, has been drawn off in the heat of a water-bath, he orders the distilled liquor to be rectified by a second distillation, drawing off somewhat less than nine tenths of it; and thus would he have all aromatic spirits prepared. When the common spirits of this kind are rubbed on the hands, &c. they leave, after the more volatile parts have exhaled, a disagreeable empyreumatic smell; and when diluted with water, and taken medicinally, they leave in like manner a nauseous flavour in the mouth. To remedy these imperfections, he made many experiments, which showed, that in order to obtain these liquors of the desirable qualities, the spirit must not only be perfectly pure at first, but that the

liquor ought also to be rectified after it has been distilled from the subjects. In this rectification, only the more volatile, subtile, and aromatic parts of the ingredients arise. There remains behind a white liquor, acrid, bitter, loaded only with the grosser oil, and deprived of all the specific flavour of the subjects. Indeed the very imperfection complained of, naturally points out this second distillation for the remedy; as it shows the spirit to contain a grateful and ungrateful matter, the former of which exhales, while the other is left behind. The author says, that when the *aqua melissæ* is prepared as above directed, it has something in it more perfect than any of the odoriferous spirits whose excellence is cried up, and which have the reputation of being the best.

Aromatic spirituous waters have in general less smell when newly distilled, than after they have been kept about six months. M. Beaumé suspects that the preparations of this kind, which have been most in vogue, were such as had been thus improved by keeping; and found that the good effects of age might be produced in a short time by means of cold. He plunges quart bottles of the liquor into a mixture of pounded ice and sea salt. The spirit, after having suffered, for six or eight hours, the cold hence resulting, proves as grateful as that which has been kept for several years. Simple waters also, after being frozen, prove far more agreeable than they were before, though they are always less so than those which have been drawn with spirit, and exposed to a like degree of cold. This melioration of distilled wa-

ters by frost was taken notice of by Geoffroy, *Hist. Acad.* 1713.

SPIRITUS RORISMARINI.

Spirit of rosemary.

Lond.

Take of

Fresh tops of rosemary, a pound and a half;

Proof spirit of wine, one gallon.

Distil, in a water-bath, five pints.

SPIRITUS RORISMARINI,

vulgo,

AQUA REGIÆ HUNGARICÆ.

Hungary-water [E.]

Take of

The flowering tops of rosemary, just gathered, two pounds;

Rectified spirit of wine, eight pounds.

Distil in a water-bath, and draw off seven pints.

It is generally brought to us from abroad.

This spirit is very fragrant, in so much as to be in common use as a perfume. That brought from abroad is superior in fragrance to such as is generally made among us. In order to prepare it in perfection, the *vinous spirit* should be extremely pure; the *rosemary tops* gathered when the flowers are full blown upon them, and committed immediately to distillation, particular care being taken not to bruise or press them. The best method of managing the distillation, is that formerly recommended for the distillation of the more volatile essential oils and simple waters, viz. first to place the spirit in the still, and then set in, above the liquor, either an iron hoop, with a hair cloth stretched over it, upon which the flowers are to be lightly spread, or rather a basket, supported on three pins, reaching down to the bottom. A gentle heat being applied, just sufficient to raise the spirit, its va-

pour, lightly percolating through the flowers, will imbibe their finer parts, without making that disagreeable alteration, which liquors applied to such tender subjects, in their grosser form, generally do. Probably the superiority of the French Hungary-water, to that prepared among us, is owing to some skilful management of this kind, or to that recommended for the foregoing preparation, and employing a perfectly pure spirit.

In the Wirtemberg Pharmacopœia, some sage and ginger are added, in the proportion of half a pound of the former, and two ounces of the latter, to four pounds of the rosemary.

SPIRITUS LAVENDULÆ.

Spirit of lavender.

Lond.

Take of

Lavender flowers, fresh gathered, a pound and a half;

Proof spirit of wine, one gallon.

Draw off, by the heat of a water-bath, five pints.

The same cautions are to be observed here, as in the distillation of the foregoing spirit. Both of them, when made in perfection, are very grateful and fragrant: they are frequently rubbed on the temples, &c. under the notion of refreshing and comforting the nerves: and likewise taken internally, to the quantity of a tea-spoonful, as warm cordials.

SPIRITUS LAVENDULÆ COMPOSITUS.

Compound spirit of lavender.

Lond.

Take of

Spirit of lavender, three pints;

Spirit of rosemary, one pint;

Cinnamon,

Nutmegs, bruised,—each half an ounce;

Red Saunders, one ounce.

Digest for ten days, and strain.

The red saunders is of no further use in this composition, than as a colouring ingredient. If a yellow spirit were liked, the yellow saunders would be an excellent article, as it not only communicates a fine colour, but likewise a considerable share of medicinal virtue. A spirit distilled from the flowers of lavender and sage in due proportion, and digested in the cold for a little time with some cinnamon, nutmegs, and yellow saunders, proves a very elegant and grateful one. Where essential oils are employed, particular care must be had in the choice of them; for on their goodness that of the medicine depends. The digestion of the spirit with the spices, &c. should be performed without heat, otherwise the flavour of the medicine will be injured.

These spirits are *grateful reviving cordials*: though considerably more simple, they are not less elegant and valuable, than the more elaborate preparations of the former Pharmacopœias. This medicine has long been held in great esteem, under the name of *PALSY DROPS, in all kinds of languors, weakness of the nerves, and decays of age*. It may be conveniently taken upon sugar, from ten to eighty or a hundred drops.

AQUA ODORIFERA.

An odoriferous spirit, called sweet honey-water.

Take of

Coriander seeds, one pound;
Lemon-peel, fresh,
Nutmegs,—each four ounces;
Ambergris,
Musk,—each five grains;
Clean melasses spirit, two gallons.

Bruise the nutmegs and coriander seeds, and put them, with the lemon-peel and the spirit, into a small still placed in balneo Ma-

riæ: tie a thin cloth over the mouth, and sprinkle thereon the ambergris and musk, reduced into fine powder; lute on the head, let the whole stand in digestion for twelve hours, and then distil as much as a boiling heat of the bath can force over.

To this add, of

Rose water, one pint;

Orange-flower-water, half a pint.

This composition is designed rather as a perfume than a medicine; though, for such as can bear its fragrance, it might be used to advantage. The musk and ambergris do not communicate so much of their smell as might be expected; and serve chiefly to heighten the flavour of the other ingredients; which these perfumes excellently do, when employed in very small proportion, to all the odoriferous simples, without imparting any thing perceptible of their own. The foregoing spirit is very agreeable; a few drops give a fine flavour to a large quantity of other liquor. Mr. Wilfon, from whom the first is taken (*Præf. Chem.* pag. 354), tells us, that he often made it for king James II. and that it gives one of the most pleasant scents that can be smelt. The other is formed on the same plan, by omitting such articles as appeared superfluous.

SPIRITUS COCHLEARIÆ.

Spirit of scurvy-grass.

Take of

Fresh scurvy-grass, bruised, ten pounds;
Rectified spirit of wine, five pints.

With the heat of a water-bath, distil off five pints.

This spirit is very strong of the scurvy-grass, and may be given in those cases where the use of this herb is proper, from twenty to one hundred drops. The virtues of

scurvy-grass reside in a very subtile, volatile oil, which arises in distillation both with water and pure spirit; and if the liquors be exposed to the air, soon exhales from both. The spirit, newly distilled, is extremely pungent, but if long kept, even in close vessels, becomes remarkably less so.

It has been much recommended as a diuretic in dropsies.

The makers of this spirit have frequently added to the scurvy-grass a quantity of horse-radish root, and sometimes substituted for it one drawn entirely from the horse-radish; the flavour of these two simples being so much alike, that their distilled spirits are scarce distinguishable from one another. Here it may be observed, that though *arum* and *dracunculus* are usually ranked in the same class with the two foregoing vegetables, and looked upon as similar to them, this process discovers a remarkable difference: whilst the former yield all their pungency in distillation both to water and spirit, the latter give over nothing to either, and yet their virtues are destroyed in the operation.

SPIRITUS COCHLEARIE AUREUS.

Golden or purging spirit of scurvy-grass.

Take of

Spirit of scurvy-grass, one pound;
Gamboge, one ounce.

Dissolve the gamboge in the spirit, and if any sediment fall to the bottom, carefully decant the tinged liquor from it.

This spirit is otherwise made with scammony, or resin of jalap, instead of gamboge.

This has been in great esteem among the common people, and strongly recommended by the vendors, in all kinds of scorbutic disorders. It is nevertheless a very indifferent medicine, and little deserves the pompous title given it.

It may be taken from twenty to sixty drops, either upon sugar or mixed with syrup.

AQUA ANHALTINA.

Anhalt water.

Take of

Turpentine, six ounces;
Olibanum, one ounce;
Aloes wood, three ounces;
Cloves,
Cinnamon,
Cubebs,
Rosemary flowers,
Galangal,
Mastic,
Nutmegs, — each six drams;
Saffron, two drams and a half;
Bay berries,
Fennel seeds, — each half an ounce;

Spirit of wine, five pints.

Pulverise those ingredients which require such treatment, and digest the whole with the spirit for six days; then distil, with an exceedingly gentle heat, in balneo Mariæ: the liquor which runs clear is to be separated from the turbid, and kept by itself.

Where the addition of musk is required, fifteen grains thereof are to be tied in a bag, and suspended in the head of the still.

We have inserted this composition from the Brandenburg Pharmacopœia, on account of its being held, in some places, in great esteem. It is rubbed on weak or paralytic limbs, against catarrhs, old pains and aches, &c. and likewise given internally, in doses of half an ounce, for strengthening the stomach, dissolving flatulencies, relieving colicky pains, and promoting the uterine purgations. It is very unpleasant to the palate: the aromatics, though sufficiently numerous, and in considerable quantity, not giving over near enough to cover the strong flavour of the turpentine; there are not many of them, indeed, that

give over any thing considerable at all. A more elegant spirit of this kind might be prepared from turpentine, rosemary, lavender, and sage flowers; or by distilling the

spirit first from the turpentine alone, and then dissolving in it a proper quantity of any suitable essential oils.

ARTICLE II. *Distilled Spirituous Waters.*

General rules for the distillation of spirituous waters; from the Edinburgh Pharmacopœia.

I.

The plants and their parts ought to be moderately and newly dried, except such as are ordered to be fresh-gathered.

II.

After the ingredients have been steeped in the spirit for the time prescribed, add as much water as will be sufficient to prevent an empyreuma, or rather more.

III.

The liquor which comes over first in the distillation, is by some kept by itself, under the title of spirit; and the other runnings, which prove milky, fined down by art. But it is better to mix all the runnings together, without fining them, that the waters may possess the virtues of the plant entire; which is a circumstance to be more regarded than their fineness or lightness.

If the distillation be skilfully managed, the heat equable, and all along gentle, and no more drawn off than the quantity directed, most of the waters will appear sufficiently bright and fine: some of them, which look turbid just after they are drawn, will, on standing for a few days, become clear and transparent. The practice of saving some of the first runnings apart is certainly very injurious to the composition; the water being not only robbed by it of some of the more volatile parts of the ingredients,

but likewise rendered permanently milky; as wanting the spirit which, by dissolving the oil of the ingredients that gives this appearance, would make the liquor transparent. Nor is the method of fining the turbid waters by alum, &c. less culpable; for these additions produce their effects only by separating from the liquor what it had before gained from the ingredients.

IV.

In the distillation of these waters, the genuine brandy obtained from wine is directed. Where this is not to be had, take, instead of that proof spirit, half its quantity of a well-rectified spirit prepared from any other fermented liquors. In this steep the ingredients; and then add spring water enough, both to make up the quantity ordered to be drawn off, and to prevent burning.

By this method more elegant waters may be obtained, than when any of the common proof spirits, even that of wine itself, are made use of. All vinous spirits receive some flavour from the matter from which they are extracted; and of this flavour, which adheres chiefly to the phlegm or watery part, they cannot be divested without separating the phlegm, and reducing them to a rectified state.

SPIRITUS ANISI COMPOSITUS;

formerly
AQUA SEMINUM ANISI COMPOSITA.

Compound aniseed water.

Lond.

Take

Aniseeds,
 Angelica seeds,—of each bruised,
 half a pound;
 Proof spirit, one gallon;
 Water, as much as is sufficient
 to prevent burning.

Draw off one gallon.

This is a very elegant aniseed
 spirit, the angelica seeds greatly
 improving the flavour of the anise.
 It is apt to turn out milky, if drawn
 so low as here ordered.

AQUA CORTICUM AURANTIORUM SPIRITUOSA.

Spirituos orange-peel water.

Take of

Outer rind of Seville orange-peel,
 dried, one pound;
 Proof spirit, three pounds;
 Water, as much as is sufficient
 to prevent an empyreuma.

Distil off two pounds by the heat
 of a water-bath.

This is considerably stronger of
 the orange-peel than the simple
 water. It is used as a *cordial*, *stomachic*, and *carminative*.

SPIRITUS ANTICTERICUS.

Anticleric spirit.

Take of

Spirit of turpentine, rectified,
 one ounce and a half;
 Rectified spirit of wine, half a
 pound.

Distil with a gentle heat. Let the
 oil swimming above in the re-
 ceiver be separated from the sa-
 turated spirit, which is to be pre-
 served for use.

This combination of oil of tur-
 pentine and spirit of wine has
 been recommended as a solvent
 for biliary calculi: but though out
 of the machine it may possess such
 a solvent power over the calculi
 immersed in it; still it can scarce
 reach them, it is natural to con-
 clude, when taken internally, so

as to exercise any power effici-
 ously.

AQUA VALERIANÆ COMPOSITA.

Compound valerian water.

Take of

Wild valerian root, a pound and
 a half;

Lovage seed, half a pound;
 Pennyroyal leaves, four ounces;
 Savin tops, two ounces;
 French brandy, two gallons.

Digest for two days, and then
 draw off by distillation two gal-
 lons.

AQUA SEMINUM CARDAMONI.

Cardamom seed water.

Take of

Lesser cardamom seeds, freed
 from the husks, four ounces;
 Proof spirit, one gallon;
 Water, as much as is sufficient to
 prevent burning.

Distil off one gallon.

This spirit is a *grateful cordial*
 and *carminative*, the cardamom seeds
 giving over in this process the
 whole of their flavour. It is not
 perhaps very necessary to be at the
 trouble of separating the husks, for
 these communicate nothing dis-
 agreeable. The only difference is,
 that, if employed unhusked, a pro-
 portionably larger quantity of them
 must be taken.

SPIRITUS CARUI;

formerly

AQUA SEMINUM CARUI.

*Caraway water.**Lond.*

Take of

Bruised caraway seeds, half a
 pound;

Proof spirit of wine, one gal-
 lon;

Water, as much as will prevent
 burning.

Draw off one gallon.

This is a *cordial* in common

use. It contains the flavour of the caraway seeds in perfection.

In the same manner, the College of London orders one gallon of

spirit to be drawn; and that of Edinburgh nine pounds, from the proportions of the ingredients specified below—

from *Menthæ piperitidis* ℥jss.

Pulegii ℥jss.

Menthæ sativæ ℥jss.

Myristicæ 32.

Corticis cinnamomi ℥j.

Pimento } 32. London.

Fructus pimentæ } ℥ss. Edinburgh.

The spirit of cinnamon is a very elegant, and agreeable cordial aromatic spirit; possessed of some refrigerant, diuretic, and expectorant power; particularly assistant to medicines of these classes, when united with them; and is often very useful in rendering medicines more agreeable to the palate, and making them sit easily on the stomach.

SPIRITUS JUNIPERI COMPOSITUS;

formerly

AQUA JUNIPERI COMPOSITA.

Compound spirit of juniper.

Lond.

Take of

Juniper berries, one pound;

Sweet fennel seeds,

Caraway seeds, bruised,—each an ounce and a half;

Proof spirit of wine, one gallon;

Water, as much as is sufficient to prevent empyreuma.

Distil off one gallon.

This spirit, mixed with about an equal quantity of the rob of juniper berries, proves an useful medicine in catarrhs, debility of the stomach and intestines, and difficulty of urine. The spirit by itself is a good cordial and carminative. The service which this and other spirituous waters do in these intentions, is too commonly known;

though the ill consequences that follow their constant use, be too little regarded.

SPIRITUS MENTHÆ PIPERITIDIS;

formerly

AQUA MENTHÆ PIPERITIDIS SPIRITUOSA.

Spirit of peppermint.

L. E.

This water is made use of in flatulent colics and similar disorders, in which it oftentimes gives immediate relief. It smells and tastes strongly of the peppermint.

SPIRITUS MENTHÆ SATIVÆ;

formerly

AQUA MENTHÆ VULGARIS SPIRITUOSA.

Spirit of spearmint.

Lond.

This spirit turns out a very elegant one, and preferable, in weakness of the stomach, reaching to vomit, and the like, to many more elaborate preparations. Where the disorder is not accompanied with heat or inflammation, half an ounce of this water may be given diluted with some agreeable aqueous liquor.

AQUA MIRABILIS.

Take of

Cinnamon, two ounces;

Lemon-peel, one ounce;

Angelica seeds,

Lesser cardamom seeds,

C c 2

Mace,—each half an ounce;
 Cubebs, two drams;
 Balm leaves, six ounces;
 French brandy, one gallon.

Pour the brandy on the other ingredients bruised; and after digesting them for four days, draw off by distillation one gallon.

The above composition of this celebrated spirit is that which was formerly followed. At a late reformation it has received a considerable improvement; the cardamoms, cubebs, and balm, are omitted, and an addition of pepper-mint introduced. The formula is as follows.

AQUA AROMATICA;

vulgo
MIRABILIS.

Aromatic water, commonly called
Aqua mirabilis.

Take of

Cinnamon, two ounces;
 Fresh yellow rind of lemons,
 Angelica seeds, — each one ounce;
 Mace, half an ounce;
 Peppermint, three ounces;
 French brandy, one gallon.

Digest for two days, and then distil off one gallon.

This spirit is very rich of the spices; and proves a pleasant, warm cordial and carminative. In those who have not, by frequent use, deprived themselves of the benefit of these kinds of liquors, it often gives present relief in *languors, flatulencies, colicky pains*, and similar complaints.

The spices in these two compositions being rather too dear for the purposes of a common cordial water, the wholesale dealers, as I have been informed, generally substitute for them a cheaper spice from our own plantations, pimento. A very elegant water is prepared also from that spice by itself.

SPIRITUS PIMENTO.

(See page 387.)

This spirit is far more agreeable than a simple water drawn from the same spice; and has long had a place among the cordials both of the distiller and apothecary; and is now received into the public Pharmacopœias of London and Edinburgh.

SPIRITUS MYRISTICÆ;

formerly

AQUA NUCIS MOSCHATÆ.

Spirit of nutmeg.

Lond.

This spirit (with the addition only of some hawthorn flowers, an article of very little significance) was formerly celebrated in nephritic disorders, under the name of *AQUA NEPHRITICA*. At present, it is regarded only as an agreeable spirituous liquor, lightly impregnated with the nutmeg flavour.

SPIRITUS PULEGII;

formerly

AQUA PULEGII SPIRITUOSA.

Spirit of penny-royal.

Lond.

This spirit has a good share of the flavour of the penny-royal, and is pretty much in use as a *carminative, antihysterical, and emmenagogue*.

SPIRITUS RAPHANI COMPOSITUS;

formerly

AQUA RAPHANI COMPOSITA.

Compound spirit of horseradish.

Lond.

Take of

Garden scurvygrass leaves, fresh, four pounds;
 Horseradish root, fresh,
 Orange-peel, fresh, — each two pounds;
 Nutmegs, bruised, one ounce;
 Proof spirit of wine, two gallons;

Water, a sufficient quantity to prevent burning.
Draw off two gallons.

This spirit is a very elegant one, and as well adapted for the purposes of an antiscorbutic, as any thing that can well be contrived in this form. The horseradish and scurvygrafs join very well together, giving a similar flavour, though not a little disagreeable; the nutmeg suppresses this flavour very successfully, without superadding any of its own; and to this, orange-peel adds a flavour very agreeable. Arum root has generally had a place in this spirit, but is here deservedly thrown out; for it gives nothing of its pungency over the helm, notwithstanding what is asserted, by some dispensatory-writers, to the contrary. Mustard-seed, though not hitherto employed in these kinds of compositions, seems to be an excellent ingredient. It gives over the whole of its pungency, and is likewise less perishable than most of the other substances of this class. This seed wants no addition, unless some aromatic material to furnish an agreeable flavour.

AQUA VULNERARIA, seu AQUA CATAPULTARIA.

Arquebuse water.

Pharm. Argent.

Take of

Comfrey, leaves and roots,
Sage,
Mugwort,
Bugloss,—each four handfuls;
Betony,
Sanicle,
Ox-eye daify,

Common daify,
Greater figwort,
Plantane,
Agrimony,
Vervain,
Wormwood,
Fennel,—each two handfuls;
St. John's wort,
Long birthwort,
Orpine,
Veronica,
Lesser centaury,
Milfoil,
Tobacco,
Moose-ear,
Mint,
Hyssop,—each one handful;
Wine, twenty-four pounds.

Having cut and bruised the herbs, pour on them the wine, and let them stand together in digestion, in horfedung, or any other equivalent heat, for three days. Afterwards distill in an alembic with a moderate fire.

This celebrated water has been for some time held in great esteem, in contusions, for resolving coagulated blood, discussing the tumours that arise on fractures and dislocations, for preventing the progress of gangrenes, and cleansing and healing ulcers and wounds, particularly gun-shot wounds. Mr. Lemery has been at the pains of writing a whole treatise on it; in which he considers each of the ingredients singly, and supposes the water to possess their united virtues. In this, however, he mistakes; for the virtues of most of the herbs, admitting them to be as great as he would have them, reside in such parts as are not capable of being elevated in this process.

CHAPTER VI.

SECT. I.

EXTRACTS WITH WATER.

THESE extracts are prepared, by boiling the subject in water, and evaporating the strained decoction to a thick consistence.

This process affords us some of the more active parts of the plants, free from the useless, indissoluble, earthy matter, which makes the largest share of their bulk. There is a great difference in vegetable substances, with regard to their fitness for this operation; some yielding to it all their virtues, and others scarce any. Those parts in which the sweet, glutinous, emollient, cooling, bitter, austere, astringent virtues reside, are for the most part totally extracted by the boiling water, and remain almost entire upon evaporating it: whilst

those which contain the peculiar odour, flavour, and aromatic quality, are either not extracted at all, or exhale along with the menstruum. Thus *gentian root*, which is almost simply bitter, yields an extract possessing, in a small volume, the whole taste and virtues of the root:—*wormwood*, which has a degree of warmth and strong flavour joined to the bitter, loses the two first in the evaporation, and gives an extract not greatly different from the foregoing: the aromatic quality of *cinnamon* is dissipated by this treatment, its astringency remaining; whilst an extract made from the *flowers of lavender* and *rosemary* discovers nothing either of the taste, smell, or virtues of the flowers.

General Rules for making Extracts with Water.

1. It is indifferent, in regard to the medicine, whether the subject be used fresh or dry: since nothing that can be preserved in this process, will be lost by drying. In regard to the facility of extraction, there is a very considerable difference; vegetables in general giving out their virtues more readily when moderately dried, than when fresh.

2. Very compact dry substances should be reduced into exceeding small parts, previous to the affusion of the menstruum.

3. The quantity of water ought

to be no greater than is necessary for extracting the virtues of the subject. A difference herein will sometimes occasion a variation in the quality of the product; the larger the quantity of liquor, the longer fire will be requisite for evaporating it, and consequently more of the volatile parts of the subject will be dissipated. A long continued heat likewise makes a considerable alteration in the matter which is not volatile: *sweet substances*, by long boiling with water, become nauseous; and the *drastic purgatives* lose their virulence;

though without any remarkable separation of their parts.

4. The decoctions are to be depurated by colature; and, afterwards, suffered to stand for a day or two, when a considerable quantity of sediment is usually found at the bottom. If the liquor, poured off clear, be boiled down a little, and afterwards suffered to cool again, it will deposit a fresh sediment, from which it may be decanted before you proceed to finish the evaporation. The decoctions of very resinous substances do not require this treatment, and are rather injured by it; the resin subsiding along with the inactive dregs.

5. The evaporation is most conveniently performed in broad shallow vessels; the larger the surface of the liquor, the sooner will the aqueous parts exhale. This effect may likewise be promoted by agitation.

6. When the matter begins to grow thick, great care is necessary to prevent its burning. This accident, almost unavoidable if the quantity be large, and the fire applied, as usual, under the evaporating pan, may be effectually prevented, by carrying on the inspissation, after the common manner, no further than to the consistence of a syrup, when the matter is to be poured into shallow tin or earthen pans, and placed in an oven, with its door open, moderately heated; which acting uniformly on every part of the liquid, will soon reduce it to any degree of consistence required. This may likewise be done, and more securely, in balneo Mariæ, by setting the evaporating vessel in boiling water; but the evaporation is here exceedingly slow and tedious.

7. Extracts are to be sprinkled with a little spirit of wine, to prevent their growing mouldy. They

should be kept in bladders moistened with sweet oil.

EXTRACTUM ANGUSTURÆ.

Extract of angustura.

Take four ounces of angustura bark, put it into a flannel bag of a conical shape, pour upon this boiling water, and repeat till the liquor has but little taste and colour. Let this be evaporated by a gentle heat: there will remain thirteen drams and twenty grains of the extract, of the full flavour of the bark, containing two drams of the resinous matter.

EXTRACTUM GENTIANÆ.

Extract of gentian.

L. E.

To any quantity of gentian root, sliced and bruised, add eight times its weight of water, and boil it till it is reduced to half; then let it be strained and set aside, that the fæculencies may subside; then boil it again in a water-bath, saturated with sea-salt, to a consistence proper for making pills.

The same kind of bath is to be used in the preparation of all extracts, that the evaporation may be properly performed.

In the Edinburgh Pharmacopœia it is ordered, after first boiling the ingredients, that the liquor is to be strained by strong pressure, and then evaporated in vessels heated by the vapour of boiling water, till it acquires the thickness of honey; and towards the conclusion of the operation, that the extract should be constantly stirred, that the empyreuma may be avoided, and the extract itself be free from lumps. And these directions are to be observed in making all extracts.

In the same manner is prepared the

EXTRACTUM

GLYCRRHIZÆ,

HELLEBORI NIGRI,

PULSATILLÆ NIGRICANTIS,

RUTÆ,

EXTRACTUM

SABINÆ;

CHAMÆMELI,

PAPAVERIS ALBI,

CACUMINIS GENISTÆ,

ENULÆ CAMPANÆ,

ABSINTHII.

For the medical virtues of which extracts, our readers are referred to the *Materia Medica*, where they will be found enumerated under the names of the vegetable substances from whence they are prepared. For these preparations are nothing more than the more active parts extracted from the earthy parts of which vegetables are formed; except in some few, where the nature of the operation dissipates the more volatile parts, or essential oils, but on which the medical power required does not always depend.

It is convenient, in making the extract of liquorice, before boiling the root, to cut it transversely into small pieces, that it may more readily give out its virtues by light coction. If the boiling be long continued, the rich sweet taste, for which this preparation is valued, will be greatly injured. For the same reason, the quantity of water ought to be no larger than is absolutely necessary to extract the virtues of the root: a quart, or at the most three pints, will be fully sufficient for a pound of liquorice. It would be of considerable advantage to the preparation, and probably (when made in quantity) less expensive to the preparer, to use. Instead of the decoction, juice of liquorice, pressed out betwixt iron rollers, after the manner practised abroad for obtaining the juice of the sugar-cane.

Large quantities of extract of liquorice have been usually brought to us from Spain, and other foreign countries; but it is very rarely met with in the shops in perfection; the makers of this commodity, both

at home and abroad, being either very slovenly in its preparation, or designedly mixing it with sand and other impurities. When made with care, it is exceedingly sweet, not at all bitterish or nauseous, more agreeable in taste than the root itself, of a pleasant smell, a reddish brown colour, and, when drawn out into strings, of a bright golden colour; totally soluble in water without depositing any feces.

This preparation would be very convenient for many purposes in the shops, if kept in a somewhat softer consistence than that of an extract. The only inconvenience attending this soft form is, its being apt in a short time to grow mouldy: this may be effectually prevented, by the addition of a small portion of spirit of wine.

EXTRACTUM HÆMATOXY-

LI, vel LIGNI CAMPE-

CHENSIS.

Extract of logwood.

L. E.

Take of logwood, reduced to powder, one pound. Boil it in a gallon of water till half the liquor be consumed, repeating the coction with fresh water four times or oftener. The several decoctions are to be mixed together, passed through a strainer, and evaporated to a due consistence.

This wood very difficultly yields its virtues to watery menstrua, and hence the reducing it into fine powder is extremely necessary.

The extract of logwood has an agreeable sweet taste, with some degree of astringency; and hence becomes serviceable in *diarrhæas*, for blunting the acrimony of the juices, and moderately constringing the intestines and orifices of the smaller vessels; it may be given from a scruple to half a dram, and repeated five or six times a day, to advantage. During the use of this medicine, the stools are frequently tinged red by

it, which has occasioned some to be alarmed, as if the colour proceeded from blood: the prescriber thereof ought to caution the patient against any surprise of this kind.

EXTRACTUM SENNÆ.*Extract of senna.**Lond.*

Take of

Senna, one pound;

Distilled water, one gallon;

Boil the senna in the distilled water, adding after its decoction a little rectified spirit of wine. Evaporate the strained liquor to a proper consistence.

The spirit may be added when the decoction is reduced to one half, or three pints; for Beaumé says, that the resinous parts of senna are in so small a proportion to the gummy, that they are readily boiled out together.

This extract is given as a gentle purgative, from ten grains to one scruple, or in less quantity, as an assistant to milder laxatives; it is said, that though this extract is a weaker purge, yet it gripes more.

EXTRACTUM CINCHONÆ, seu CORTICIS PERUVIANI, molle et durum.*Extract of Peruvian bark, soft and hard.**Lond.*

Boil a pound of powdered bark in five or six quarts of water, for an hour or two, and pour off the liquor, which, whilst hot, will be red and transparent, but on growing cold becomes yellow and turbid. The remaining bark is to be boiled again in the same quantity of water as before, and this process repeated till the liquor remains transparent when cold. All the decoctions, strained and mixed together, are to be evaporated over a very gentle fire to a due consistence, care being taken to prevent the matter from burning.

This extract is directed to be kept in the shops, both in a *soft* and *hard form*; the first of a proper consistence, for making into pills; the other fit for being reduced into powder.

Peruvian bark is a resinous drug: the resin melts out by the heat, but is not perfectly dissolved by the water; hence, in cooling, it separates, renders the liquor turbid, and in part falls to the bottom, as appears manifestly upon examining the sediment by spirit of wine. This extract might be made to better advantage by the assistance of spirit of wine, after the same manner as that of jalap; and this method the Edinburgh College have directed. But all the spirits which can be expected to be employed for this process among us, are accompanied with some degree of a bad flavour. This adheres most strongly to the phlegmatic part of the spirit, which evaporating last, must communicate this ill flavour to the extract; a circumstance of very great consequence; as this medicine is designed for stomachs too weak to bear a due quantity of bark in substance. Ten or twelve grains of the hard extract are reckoned equivalent to about half a dram of the bark itself.

GUMMI et RESINA ALOES.*Gum and resin of aloes.**Lond.*

Boil four ounces of Socotorine aloes in two pints of water, till as much as possible of the aloes be dissolved. The solution suffered to rest for a night, will deposit the resin to the bottom of the vessel: after which, the remaining liquor, strained, if needful, is to be evaporated, that the gum may be left.

The gum of aloes is somewhat less purgative, and considerably less disagreeable than the crude juice. This alteration is not owing, as

might be supposed, to the separation of the resin: for the pure resin of aloes is still less disagreeable, and less purgative, even than the gum: some have denied that it has any purgative virtue at all, and others ascribe to it an astringent quality. I have exhibited this resin, divided by trituration with the testaceous powders, in the dose of a scruple, without observing any effect from it. The gum seems to be the only part here intended for medicinal use. If the resin be required, it ought to be further purified by solution in spirit of wine; for as it is obtained by precipitation from an aqueous solution of impure aloes, all the impurities of the drug, that are not soluble in water, will precipitate along with it.

EXTRACTUM MYRRHÆ GUMMOSUM.

Gummos extract of myrrh.

Take of
Myrrh, four ounces;
Spring water, two pounds.

Let the myrrh be dissolved by gentle digestion, and repeated agitation of the vessel, for four or five days; let the water swimming above the myrrh be then poured off, strained, and evaporated, to the consistence of an extract.

By this process the myrrh is much deprived of the heating qualities which it possesses in its crude state; and as some consider it an useful remedy in phthisis pulmonalis, un-

der this form it may probably be exhibited with advantage.

EXTRACTUM TARAXACI.

Extract of dandelion.

This is prepared in the same manner as the extract of gentian, from the roots, collected early in spring, or late in autumn. If the dandelion possesses resolvent, aperient, and diuretic powers, these may be conveniently obtained in this form. But as this root is known to contain a milky juice, it has been thought that the activity of this medicine might be increased by employing spirit in the process.

ROB BACCARUM JUNIPERI.

Rob of juniper berries.

Let juniper berries, thoroughly bruised, be boiled in a sufficient quantity of water, the liquor strained, and inspissated to the consistence of honey.

This preparation may be made also from the decoction that remains after the distillation of the essential oil of the berries. It has a sweet balsamic taste, accompanied with a greater or less bitterness, according as the seeds of the berry were more or less thoroughly bruised. This elegant preparation, though not received in our Pharmacopœias, seems not unworthy of a place in the shops. Hoffmann has a great opinion of it in *debilities of the stomach and intestines*, and in the *difficulties of urine*, familiar to persons of an advanced age.

S E C T. II.

EXTRACTS WITH RECTIFIED SPIRIT.

RECTIFIED spirit of wine dissolves the essential oils and resins of vegetables, and does not

readily carry off the oil in its exhalation; the heat sufficient to exhale pure spirit, being much less than

that in which water considerably evaporates, or most essential oils distil. Hence a resinous or spirituous extract of wormwood, contrary to that made with water, contains the warmth and flavour, as well as bitterness, of the herb; one made from cinnamon possesses its aromatic virtue, as well as its astringency; and one from lavender and rosemary flowers retains great part of their flavour and virtues; the volatile parts, which are carried off by water in its evaporation, being left behind by spirit.

The spirit employed for this purpose should be perfectly free from any ill flavour; which would be communicated, in part, to the preparation; and from any admixture of phlegm or water, which would not only vary its dissolving power, but likewise, evaporating towards the end of the inspissation, would promote the dissipation of the volatile parts of the subject. Hence also the subject itself ought always to be dry. Those substances, which lose their virtue by drying, lose it equally on being submitted to this treatment with the purest spirit.

The inspissation should be performed, from the beginning, in the gentle heat of a water-bath. It is not needful to suffer the spirit to evaporate in the air. Greatest part of it may be recovered by collecting the vapour in the common distilling vessels. If the distilled spirit be found to have brought over any flavour from the subject, it may be advantageously reserved for the same purposes again.

It is observable, that though rectified spirit be the proper menstruum of the pure volatile oils, and of the grosser resinous matter of vegetables, and water of the mucilaginous and saline; yet these principles are, in almost all plants, so intimately combined together, that, whichever of these liquors be ap-

plied at first, it will take up a portion of what is directly soluble only in the other. Hence sundry vegetables, extremely resinous, and whose virtues consist chiefly in their resin, afford nevertheless very useful extracts with water, though not equal to those which may be obtained by a prudent application of spirit. Hence, also, the extracts made from most vegetables by pure spirit are not mere resins; a part of the gummy matter, if the subject contained any such, being taken up along with the resin, an admixture of great advantage to it in a medicinal view. The spirituous extracts of several vegetable substances, as mint-leaves, rhubarb, saffron, dissolve in water as well as in spirit.

Pure resins are prepared by mixing, with spirituous tincture of very resinous vegetables, a quantity of water. The resin, incapable of remaining dissolved in the watery liquor, separates and falls to the bottom; leaving in the menstruum such other principles of the plant as the spirit might have extracted at first along with it.

RESINA JALAPÆ.

Resin of jalap.

Take any quantity of jalap-root very well bruised. Pour upon it so much rectified spirit of wine as will cover it to the height of four fingers; and digest them together in a sand-heat, that the spirit may extract the virtue of the root. Filter the tincture through paper, put it into a glass cucurbit, and distil off one half of the spirit. Add to the remainder a proper quantity of water, and the resin will precipitate to the bottom. Divide it into little cakes, and dry it with a very gentle heat.

This preparation is a pure resin; such gummy parts as the spirit might have taken up, remaining

suspended in the liquor. *Its indissolubility in any aqueous fluid, and its tenacious quality, by which it adheres to the coats of the intestines, and occasions great irritation and gripes, forbid its being ever given by itself.* It is fitted for use, by thoroughly triturating it with testaceous powders;—by grinding it with almonds or powdered gum, and making the compound into an emulsion with water;—or by dissolving it in spirit of wine, and mixing the solution with a proper quantity of syrup, or of mucilage. Six or eight grains, managed in either of these ways, prove powerfully cathartic, and generally without griping or greatly disordering the body.

It has been said, that resin of jalap is frequently adulterated with common resin; and that this abuse may be discovered by spirit of wine, which dissolves the former, without touching the latter. This criterion, however, is not to be relied on; for there are many cheap resins which are soluble in spirit of wine as well as that of jalap; and there is not any one which may not be artfully rendered so.

RESINA SCAMMONII.

Resin of scammony.

This resin is prepared in the same manner as the preceding; with which it agrees also in its general qualities; occasioning vehement gripes if taken by itself, and operating generally with sufficient safety when properly divided.—Scammony is doubtless a valuable purgative; but what advantage there is in thus separating the purgative resin from its natural corrector, the gummy part, is not so clear.

RESINA GUAIACI.

Resin of guaiacum.

This resin is prepared in the same manner as the two preceding, either from the wood of guaiacum, or from what is called gum

guaiacum. It is obtained most commodiously from the latter.

The virtue of guaiacum consists wholly in its resin; and the resin of the wood, and of the gum so called, is perfectly one and the same; the gum being the natural exudation from the tree. If this exudation could be had pure, there would be no occasion for any artificial preparation of this kind; but it always contains a large proportion of earthy matter, so as to stand greatly in need of this method of purification. Sixteen ounces of the best gum guaiacum do not yield above twelve ounces of pure resin. The same quantity of the wood yields about three ounces, more or less, according to its goodness. The bark is somewhat less resinous than the wood.

RESINACINCHONÆ, vel COR- TICIS PERUVIANI.

Resin of Peruvian bark.

This resin is made in the same manner as the foregoing, and proves an elegant preparation of the bark, much stronger in taste than the watery extract described in the preceding section. It is nearly equivalent to about ten times its quantity of the bark in substance. There does not, however, appear to be any advantage in separating the pure resin by the addition of water, either in this or in the other articles. In regard to the bark particularly, it is more advisable to endeavour to unite into one compound all that can be extracted from it by watery and spirituous menstrua; and accordingly the Edinburgh College has received a preparation of this kind, which is described in the following section.

EXTRACTUM CROCI.

Extract of saffron.

Pharm. Brandenburg.

Digest saffron in fresh quantities of pure spirit of wine, so long as the spirit extracts any colour

from it. Mix the several tinctures together, and distil off the spirit, in a tall glass vessel, by the heat of a water-bath, till the residuum appear of the consistence of oil or balsam.

This is a general process for the preparation of extracts from aromatic and other odorous substances; which extracts have been commonly distinguished by the name of *essential*, for the same reason that the volatile oils are so called, their retaining the specific odour and flavour of the subjects. In making the extracts of this class, the inspissation should never be carried much lower than the consistence above directed; for when the matter has become thick, the spirit exhales more difficultly than before, and is

more apt to carry off with it some of the volatile parts. If the preparation be wanted in a solid or consistent form, it is more advisable to mix with it a suitable quantity of any appropriated powdery matters, than to hazard the loss of its virtue by a further evaporation. If any addition be wanted for giving consistence to the extract of saffron, saffron in substance appears to be the best.

The extract of saffron has been permitted to stand in this place, as the process for obtaining it is to be observed in preparing extracts from aromatic and other odorous substances. As a medicine it appears to be insignificant.—See *Crocus*, in *Materia Medica*.

SECT. III.

EXTRACTS WITH SPIRIT AND WATER.

THERE are sundry vegetables, particularly those of a resinous nature, which are treated, to better advantage, with a mixture of water and spirit, than with either of them singly. The virtues of resinous woods, barks, and roots, may indeed be in great part extracted by long boiling in fresh portions of water; but at the same time they suffer a considerable injury from the continued heat necessary for the extraction, and for the subsequent evaporation of so large a quantity of the fluid. Rectified spirit of wine is not liable to this inconvenience. But the extracts obtained by it, from the substances here intended, being almost purely resinous, are less adapted to general use

than in those in which the resin is divided by an admixture of the gummy matter, of which water is the direct menstruum.

There are two ways of obtaining these compound or gummy resinous extracts: *one*, by using proof spirit, that is, a mixture of about equal parts of spirit and water, for the menstruum; *the other*, by digesting the subject first in pure spirit and then in water, and afterwards uniting into one mass the parts which the two menstrua have separately extracted. In some cases, where a sufficiency of gummy matter is wanting in the subject, it may be artificially supplied, by inspissating the spirituous tincture to the consistence of a balsam, then

thoroughly mixing with it a thick solution of any simple gum, as mucilage of gum Arabic, and exsiccating the compound with a gentle heat. By this method are obtained elegant gummy resins, extemporaneously miscible with water into milky liquors.

EXTRACTUM JALAPII.

Extract of jalap.
Edinb.

Take of

Jalap root, one pound;

Rectified spirit of wine, four pounds.

Digest them together four days, and pour off the tincture; and put to the remaining magna ten pounds of water; boil it to two pounds, and pass it through a strainer, and evaporate to the consistence of a thin honey. Distil off the spirit from the tincture, till the remainder be of the same consistence. Then mix the two inspissated liquors well together; and evaporate to the consistence of an extract.

This extract is an useful *purgative*, preferable to the crude root, as being of more uniform strength, and as the dose, by the rejection of the woody parts, is rendered smaller. The mean dose is twelve grains. If the spirituous tincture were inspissated by itself, it would afford a resinous mass, which, unless thoroughly divided by proper admixtures, occasions violent griping, and yet does not prove sufficiently cathartic; the watery decoctions yield an extract, which operates exceeding weakly: both joined together, as in this preparation, compose an effectual and safe purge. This method of making extracts might be advantageously applied to sundry other resinous substances, as the dry woods, roots, barks, &c. A small quantity of spirit takes up the resin; and much less water than

would otherwise be necessary, extracts all the other soluble parts.

In a former edition of the Edinburgh Pharmacopœia, a little fixt alkaline salt was ordered to be added to the water in which the jalap is boiled after the action of spirit; on a supposition, that this would enable the water to extract more from the root than it could by itself. But, so far as the quantity of the alkaline salt could go, it had the opposite effect; impeding the action of the water. The resinous parts of the jalap are dissolved by the spirit; and little other than the gummy matter remains for water to extract. Now, if pure gum Arabic be put into water along with any alkaline salt, the salt will render the water incapable of dissolving the gum. If the gum be dissolved first, the addition of any alkaline salt will precipitate it.

Extract of PERUVIAN BARK, LOGWOOD, and CASCARILLA, are to be prepared in the same manner as the Jalap.

The College of Edinburgh has directed the extract of bark to be made with water and spirit, in the same manner as the preceding. In the bark we may distinguish two kinds of tastes, an astringent and a bitter one; the former of which seems to reside in the resinous matter, and the latter chiefly in the gummy. The watery extract is moderately strong in point of bitterness, but of the astringency it has only a small degree. The pure resin, on the other hand, is strong in astringency, and weak in bitterness. Both qualities are united in the present extract; which appears to be the best preparation of this kind that can be obtained from this valuable drug.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM;

formerly

EXTRACTUM CATHARTICUM.

Compound extract of colocintida.
 Lond.

Take of
Socotorine aloes, an ounce and a half;
Colocynth, cut small, six drams;
Scammony, powdered, half an ounce;
Lesser cardamoms, husked and pounded, one dram;
Proof spirit of wine, one pint.
Digest the colocynth in the vinous spirit with a gentle heat for four days. Press out the tincture, and dissolve therein the aloes and scammony; when these are dissolved, distil the spirit, and evaporate the water, adding the seeds towards the end of the process, that the remaining mass may be of a proper consistence for making pills.

This composition answers very effectually the intention expressed in its title, so as to be relied on in cases where the patient's life depends on its taking place. The dose is from fifteen grains to half a dram. The proof spirit is a very proper menstruum for the purgative materials; dissolving nearly the whole substance of the aloes and scammony, except the impurities; and extracting from the colocynth, not only the irritating resin, but great part of the gummy matter. This extract, formerly called *Extractum Catharticum*, prepared as here directed, retains all the essential oil of the cardamoms, of which, in the former method of preparing, it was deprived.

CONFECTIO AROMATICA;

formerly
CONFECTIO CARDIACA.

Aromatic confectio.

Lond.

Take of
Zedoary in coarse powder,

Saffron,—of each half a pound;
Distilled water, three pints;
Macerate for twenty-four hours; then press out and strain—evaporate the strained liquor to one pound and a half—and add
Compound powder of crabs-claws, sixteen ounces;
Cinnamon,
Nutmegs,—of each two ounces;
Cloves, one ounce;
Lesser cardamom seeds, half an ounce;
Double-refined sugar, two pounds.
Powder together the spices very finely and, adding the sugar, make a confectio.

ELECTARIUM AROMATICUM;

formerly

CONFECTIO CARDIACA.

Edinb.

Take of
Aromatic powder, three ounces;
Syrup of orange-peel, boiled to the thickness of honey, six ounces;
Mix, with great care, into a smooth uniform electuary.

These are improvements of the *Confectio cardiaca* of former dispensatories.—The essential oil of cardamoms, made at Apothecaries Hall in London, appeared to be lost in the evaporation of the tincture; the cardamom seeds are now therefore more properly added in powder.

The confectio, as now reformed, is a sufficiently grateful, and moderately warm cordial; and frequently given in that intention, from eight or ten grains to a scruple or upwards, in boluses and draughts. The extract retains a considerable share of the flavour and virtue of the ingredients, though not near so much as if a rectified spirit had been employed. The operator should be particularly careful to extract as much from

the ingredients as the spirit will take up; otherwise the inspissated matter turns out so thin, and of so little tenacity, that the powders are apt to separate and subside from it in keeping. The crabs-claw pow-

der does not appear to be very necessary, and is inserted rather in compliance with the original, than from its contributing any thing to the intention of the medicine.

SECT. IV.

EXTRACTS BY LONG DIGESTION.

IN the foregoing part of this chapter, it has been observed, that the virtues of vegetable decoctions are altered by long boiling. Decoctions or infusions of drastic vegetables, by long continued boiling or digestion, lose more and more of their virulence; and at the same time deposit more and more of a gross sediment, resulting probably from the decomposition of their active parts. On this foundation it has been attempted to obtain safe and mild preparations from sundry virulent drugs; and some of the chemists have strongly recommended the process, though without specifying, or giving any intimation of, the continuance of boiling requisite for producing the due mildness in different subjects. M. Beaumé, in his *Elémens de Pharmacie*, lately published, has given a particular account of an extract of opium prepared on this principle; the substance of which is as follows:

Extract of opium prepared by long digestion.

Let five pounds of good opium, cut in pieces, be boiled about half an hour, in twelve or fifteen quarts of water. Strain the decoction, and boil the remain-

der once or twice in fresh water, that so much of the opium as is dissoluble in water may be got out. Evaporate the strained decoctions to about six quarts; which being put into a tin cucurbit, placed in a sand-bath, keep up such a fire as may make the liquor nearly boil, for three months together, if the fire be continued day and night, and for six months, if it be intermitted in the night: filling up the vessel with water in proportion to the evaporation; and scraping the bottom with a wooden spatula from time to time, to get off the sediment which begins to precipitate after some days' digestion. The sediment needs not to be taken out till the boiling be finished; at which time the liquor is to be strained when cold, and evaporated to an extract of a due consistence for being formed into pills.

The author observes, that by keeping the liquor strongly boiling, the tedious process may be considerably expedited, and the six months digestion reduced to four months: that in the beginning of the digestion, a thick, viscous, oily matter rises to the top, and

forms a tenacious skin as the liquor cools; this is supposed to be analogous to essential oils, though wanting their volatility; that the oil begins to disappear about the end of the first month, but still continues sensible till the end of the third, forming oily clouds as often as the liquor cools; that the resin at the same time settles to the bottom in cooling, preserving for a long while its resinous form, but by degrees becoming powdery, and incapable of being any longer softened, or made to cohere by the heat: that when the process is finished, part of it still continues a perfect resin, dissoluble in spirit of wine, and part an indissoluble powder: that when the digested liquor is evaporated to about a quart, and set in the cold till next day, it yields a brownish earthy-saline matter, called *the essential salt of opium*, in figure nearly like the sedative salt obtained from borax, intermingled with small needled crystals. He gives an account of his having made this preparation six or seven times. The vessel he made use of was about two inches and a half diameter in the mouth; the quantity of water evaporated was about twenty-four ounces a day, and from a hundred and thirty to a hundred and forty quarts during the whole digestion. Out of sixty-four ounces of opium, seventeen ounces remained undissolved in the water: the quantity of resinous matter, precipitated during the digestion, was twelve ounces: from the liquor, evaporated to a quart, he obtained a dram of essential salt, and might, he says, have separated more; the liquor being then further evaporated to a pilular consistence, the weight of the extract was thirty-one ounces.

It is supposed, that the narcotic virtue of opium resides in the oily

and resinous parts; and that the gummy extract, prepared by the above process, is endowed with the calming, sedative, or anodyne powers of the opium, divested of the narcotic quality as it is of the smell, and no longer productive of the disorders which opium itself, and the other preparations of it, frequently occasion. A case is mentioned, from which the innocence and mildness of the medicine are apparent; fifty grains having been taken in a day, and found to agree well, where the common opiate preparations could not be borne. But what share it possesses of the proper virtues of opium, is not so clear; for the cure of convulsive motions of the stomach and vomitings, which at length happened after the extract had been continued daily in the above doses for several years (*plusieurs années*), cannot perhaps be ascribed fairly to the medicine.

If the theory of the process, and of the alteration produced by it in the opium, be just; a preparation equivalent to the above may be obtained in a much shorter time. If the intention be to separate the resinous and oily parts of opium, they may be separated, by means of pure spirit of wine, in as many hours as the digestion requires months. The separation will also be as complete, in regard to the remaining gum, though some part of the gum will in this method be lost, a little of it being taken up by the spirit along with the other principles.

In what particular part of opium its peculiar virtues reside, has not perhaps been incontestably ascertained; but thus much seems clear from experiment, *that the pure gum, freed from all that spirit can dissolve, has little, or rather nothing, of its soporific power.*

In the new Dispensatory of Edinburgh in the year 1789, it is said, "*that the pure gum, freed from all that spirit can dissolve, does not differ essentially in its soporific power from the resinous part.*"

There are grounds also to presume, that, by whatever means we destroy or diminish what is called

the narcotic, soporific, virulent quality of opium, we shall destroy or diminish likewise its salutary operation. For the ill effects, which it produces in certain cases, seem to be only the necessary consequences of the same power, by which it proves so beneficial in others.

CHAPTER VII.

EMPYREUMATIC OILS.

VEGETABLE and animal substances, and mineral bitumens, on being urged with a red heat, have their original properties destroyed, and are resolved or changed into products of a different nature from what pre-existed in the subject. By burning them in the open air, a *part is changed into ashes*, a *part into soot*, and a *part is dissolved by the air*. Exposed to the fire in close vessels (as in those called retorts, having receivers adapted to them for detaining the volatile parts), they are resolved into fetid oils, and different kinds of saline substances, which rise into the receiver; and a black coal, which remains behind, and which, though no further alterable in close vessels, on admitting air, burns into white ashes. The oils, called, from their fetid burnt smell, *empyreumatic*, are the objects of the present chapter. Some of these however, being obtained in the same process with certain saline bodies of more importance than themselves, are referred to the head of Saline Preparations.

OLEUM SUCCINI — OL. SUCCINI RECTIFICATUM.
See ANOMALOUS SALT.

OLEUM GUAIACI.

Oil of guaiacum.

Put any quantity of chips of guaiacum into an earthen long neck, or a glass retort, and distil either in a sand-bath or an open fire, increasing the heat by degrees. At first an acid liquor will come

over, afterwards a light red oil, and at length, in the utmost degree of fire, a thick black oil which sinks through the other liquors to the bottom of the receiver.

Oils may be obtained after the same manner from every kind of wood.

The retort may be filled almost up to the neck with chips or small pieces of guaiacum, the refuse of the turner. Lute on a glass receiver with a paste made of linseed meal and water: set the retort on the bottom of a deep iron pot, with a little sand under it; and fill up the space, betwixt it and the sides of the pot, with more sand. Apply at first a gentle fire, and gradually increase it to the utmost that the furnace is capable of giving. Particular care must be had not to raise the heat too fast when the first reddish oil begins to come over; for at this time, a large quantity of elastic vapour is extricated from the wood, which, if the fire be urged, or if it be not allowed an exit, will burst the vessels. When the distillation is finished, and the vessels grown cool, unlute the receiver, and separate the oil from the acid liquor. The method of performing this by the funnel is as follows: Pour the several liquors into a glass funnel, whose stem is stopp'd by the finger. The ponderous black oil sinks lowermost; suffer this to run out; then close the stem again, and af-

terwards separate the acid liquor from the lighter oil, in the same manner. They are more perfectly separated, by pouring them into a hollow cone of filtering paper, moistened with water, and placed in a funnel: the acid liquor passes through, and the oil remains on the paper.

The oils obtained by this treatment from different woods and plants, are *nearly of the same qualities*: they have all a very disagreeable acrid taste, and a burnt stinking smell; without any thing of the peculiar flavour, taste, or virtues of the subject which afforded them. The present practice rarely employs those oils any otherwise than for external purposes, as the *cleansing of foul bones, for the tooth-ach, against some kinds of cutaneous eruptions, old pains and aches, and the like*; and for these not very often.

OLEUM LATERITIUM.

Oil of bricks.

Heat bricks red hot, and quench them in oil olive, till they have soaked up all the oil: then break them into pieces small enough to be conveniently put into a retort; and distil with a sand-heat gradually increased. An oil will arise, together with a spirit, which is to be separated from it as in the foregoing processes.

This preparation has had a place in most Dispensatories, under the pompous names of *oleum philosophorum, sanctum, divinum, benedictum*, and others, as improper as that under which it stands above. It is really oil of olives rendered strongly empyreumatic by heat. The spirit, so called, is no more than phlegm, or water, tainted with the burnt flavour of the oil. It has been celebrated for sundry external purposes, particularly *against gouty and rheumatic pains, deafness and tingling of the ears, &c.* and

has sometimes been given inwardly. But common practice seems to have now entirely rejected this loathsome remedy.

OLEUM PETROLEI;

formerly

OLEUM PETROLEI BARBADENSIS.

Oil of petroleum, or fossil tar.
 Lond.

Take of

Petroleum a sufficient quantity, and distil in a sand-bath.

This oil will be more or less thin, according to the continuance of the distillation; and the tar will at last be reduced to a black coal, and then the oil will be pretty deep in colour, though perfectly fluid; this oil has a property similar to that of the tincture of nephritic wood in water, appearing blue when looked upon, but of an orange colour when held betwixt the eye and the light. By long keeping, I have observed it to lose this property. It is somewhat less disagreeable than the foregoing oils, though very acrid and stimulating.

OLEUM CERÆ.

Oil of wax.

Edinb.

Melt yellow bees'-wax with twice its quantity of sand, and distil in a retort placed in a sand furnace. At first an acid liquor arises, and afterwards a thick oil, which sticks in the neck of the retort, unless it be heated by applying a live coal. This may be rectified into a thin oil, by distilling it several times, without addition, in a sand-heat.

BOERHAAVE directs the wax, cut in pieces, to be put into the retort first, so as to fill one half of it; when as much sand may be poured thereon as will fill the remaining half. This is a neater, and much less troublesome way, than melting the wax, and mixing it with the

sand, before they are put into the retort. Boerhaave greatly commends this oil for *roughness* and *chaps of the skin*, and similar purposes: the college of Strasburg speak also of its being given internally, and say it is a *powerful diuretic* (*ingens diureticum*) in doses of from two to four and more drops; but its disagreeable smell has prevented its coming into use among us.

OLEUM ANIMALE.

*Animal oil.**Lond.*

Take of

Oil of hartshorn, one pound.

Distil three times.

Edinb.

Take of

Empyreumatic oil, recently distilled from the horns of animals, as much as you will.

Distil from a matrafs furnished with a head, as long as a thin colourless oil comes over, which is to be freed from alkaline salt, and spirit, by means of water. In order to preserve this oil limpid and good, it ought to be put in small phials completely filled and inverted, having previously put into each phial a few drops of water, that on inverting them, the water may interpose betwixt the oil and mouth of the phial.

The quantity of oil employed in this process should be considerable: for it leaves so much black matter behind in the several distillations, that it is reduced, at last, to a small portion of its original quantity. The distillation must be repeated, at least, twelve times; and frequently the requisite subtilization will scarcely be obtained with less than twenty distillations. It is said, that the effect may be expedited, by mixing the oil with quicklime into a soft paste; the lime keeping down more of the

gross matter, than would remain without such an addition.

MOPET, of Petersburg, took some pains to reduce the expense attending the repeated distillations of this oil, in order to render it pure. He directed the fœtid oil to be poured into a glass cucurbit, with an alembic head; so as not to foul the side of the vessel, and distilled with a gentle heat, separating, by change of the receiver, the limpid oil which first comes over, from the more yellow, which follows; and in like manner, the second from the third. To rectify the first limpid portion, one distillation with a slow fire is sufficient, but the other portions commonly require two; in which the limpid part must be separated in the same manner from the more impure which follows, by changing the receiver; and the process thus be continued until all the oil flows limpid and white.

Animal oils thus rectified are of a subtile, penetrating, not disagreeable smell and taste. They are strongly recommended as *anodynes* and *antispasmodics*, in doses of from fifteen to thirty drops. Hoffman reports, that they procure a calm and sweet sleep, which continues often for twenty hours, without being followed by any languor or debility, but rather leaving the patient more alert and cheerful than before: that they procure likewise a gentle sweat, without increasing the heat of the blood: that given to twenty drops or more, on an empty stomach, six hours before the accession of an intermittent fever, they frequently remove the disorder: and that they are likewise a very generous remedy in inveterate and chronic epilepsies, and in convulsive motions, especially if given before the usual time of the attack, and preceded by proper evacuations.

The empyreumatic oils of vegetables, rectified in the same manner by repeated distillations, suffer a like change with the animal; losing their dark colour and offensive smell, and becoming limpid, penetrating, and agreeable. In this state they are supposed, like the animal oils, to be anodyne, antispasmodic, and diaphoretic, or sudorific. It is observable, that all the empyreumatic oils dissolve in spirit of wine, and that the oftener they are rectified or redistilled, they dissolve the more readily: a circumstance in which they differ remarkably from essential oils, which, by repeated distillations, become

more and more difficult of solution.

How far these preparations really possess the virtues that have been ascribed to them, has not yet been sufficiently determined by experience; the tediousness and trouble of the rectification having prevented their coming into general use, or being often made. They are liable also to a more material inconvenience in regard to their medicinal use, precariousness in their quality: for how perfectly soever they be rectified, they gradually lose, in keeping, the qualities they had received from that process, and return more and more towards their original fetidness.

CHAPTER VIII.

SALTS AND SALINE PREPARATIONS.

S E C T. I.

FIXED ALKALINE SALTS.

THE ashes of most vegetables, steeped or boiled in water, give out to it a saline substance, separable in a solid form by evaporating the water. This kind of salt never pre-exists in the vegetable, but is always generated during the burning. It is called fixt alkaline salt.

The shops were formerly burthened with a great number of these salts, which are now almost totally rejected; one being found fully sufficient to answer all the purposes that can be derived from these kinds of alkaline substances. All these preparations, from whatever vegetables they may be obtained, those of certain marine plants excepted, are nearly one and the same thing, and not distinguishable from each other, at least in their effects as medicines.

The Colleges of London and Edinburgh therefore confine themselves to the two following.

KALI PRÆPARATUM.

Prepared kali.

Lond.

Take of

Pot-ash, two pounds ;

Boiling distilled water, three pints.

Dissolve, and filter through paper: evaporate this solution, until a pellicle appears, upon the

surface; then set aside for twelve hours, that the neutral salts may crystallise; afterwards pour out the liquor, and boil away the whole of the water, constantly stirring, lest the salt should adhere to the pot.

In like manner is purified impure kali from the ashes of any kind of vegetables.

LIXIVA E TARTARO;

vulgo
SAL TARTARI,

Salt of Tartar.

Edinb.

Take of tartar, what quantity you chuse. Let it rolled up in moist bibulous paper, or put into a crucible, and surrounding it with live coals, burn it into a coal; then having powdered it, let it be calcined in an open crucible, with a moderate heat, taking care that it does not melt, until it becomes white, or at least an ash colour; afterwards dissolve it in warm water, let the liquor be strained through linen, and evaporated in a clean iron vessel, constantly stirring with an iron spatula towards the end of the process, that the matter may not adhere to the bottom of the vessel. A very white salt will remain; which must be left a little time longer over the

fire, until the bottom of the vessel appears almost red. Lastly, when the salt grows cold, it must be put into glass vessels closely stopped.

This salt has a pungent fiery taste; and occasions in the mouth a kind of urinous flavour, probably from a resolution which it produces in the saliva. It readily dissolves in water, and deliquesces in the air, but is not acted upon by pure vinous spirits. Instead of being dissolved by vinous spirits, if a saturated solution of it in water be dropt into the pure spirit, it will not mix therewith, but fall distinct to the bottom; if water be mixed with the spirit, the addition of fixt alkaline salt will imbibe the water, and form with it, as in the other case, a distinct fluid at the bottom. This property affords a commodious method of dephlegmating vinous spirits, or separating their watery part, as we have already seen.

Salt of tartar, or solutions of it in water, raise an effervescence on the admixture of acid liquors, and destroy their acidity, the alkali and acid uniting together into a compound of new qualities, called *neutral*.—Earthy substances, and most metallic bodies, previously dissolved in the acid, are precipitated from it by the alkali.—The alkaline salt changes the colour of the blue flowers of plants, or their infusions, to a green. It has the same effect on the bright red flowers, and on the colourless infusions of white ones; but in many of the dark red, as those of the wild poppy, and of the yellow ones, it produces no such change.

Solutions of this salt liquefy all the animal juices, except milk; corrode the fleshy parts into a kind of mucous matter; concrete with animal fats, and vegetable oils,

into soap; and dissolve sulphur into a red liquor; especially if assisted by a boiling heat, and mingled with quicklime, which greatly promotes their activity. On pure earths and stones, these liquors have no sensible action; but if the earth or stones be mixed with four or five times the weight of the dry salt, and urged with a strong fire, they melt along with it, and become afterwards perfectly soluble both in water and by the moisture of the air. With a smaller proportion of the salt, as an equal weight, they run into an indissoluble glassy matter.

The medical virtues of this salt are, to *attenuate the juices, resolve obstructions, and promote the natural secretions*. A dilute solution of it, drunk warm in bed, generally *excites sweat*. If that evacuation be not favoured, its sensible operation is *by urine*. It is an excellent remedy in *costive habits*, especially if a few grains of aloes be occasionally interposed; with this advantage above other purgatives and laxatives, *that when the complaint is once removed, it is not apt to return*. Where acidities abound in the first passages, this salt *absorbs the acid, and unites with it into a mild aperient neutral salt*. As one of its principal operations is to render the animal fluids more thin, it is obvious, that where they are already colliquated, as in scurvy, and in all putrid disorders in general, this medicine is improper. The common dose of the salt is from two or three grains to a scruple; in some circumstances it has been extended to a dram, in which case it must always be largely diluted with watery liquors.

AQUA KALI PRÆPARATI;

formerly
LIXIVIUM TARTARI.

Water of prepared kali.

Lond.

Take of

Prepared kali, one pound.

Set it in a moist place until it dissolves, and strain.

This contains about one part of alkaline salt to three of water.

AQUA KALI PURI;

formerly

LIXIVIVM SAPONARIUM.

*Water of pure kali.**Lond.*

Take of

Prepared kali, four pounds;

Quick-lime, six pounds;

Distilled water, four gallons.

Pour four pints of water to the lime, and let them stand together for an hour; after which add the kali to the rest of the water—then boil for a quarter of an hour, suffer the liquor to cool, and strain. A pint of this ought to weigh sixteen ounces.

If the liquor effervesces with any acid, add more lime. Then boil the liquor and the lime together for five minutes in a close vessel. Lastly, let it be again cooled and strained. The boiling should be performed either in glass or earthen-ware; strain it through linen, and keep it in a close vessel.

Quicklime, by depriving the alkali of its aerial acid, renders it caustic; and hence this ley is much more acrimonious, and acts more powerfully as a menstruum on oils, fats, &c. than a solution of the potash alone. The lime should be used fresh from the kiln; by long keeping, even in close vessels, it loses much of its strength: such should be made choice of as is thoroughly burnt or calcined, which may be known by its comparative lightness.

All the instruments employed in this process should be either of wood, earthen ware, or glass. The common metallic ones would be

corroded by the ley, so as either to discolour, or communicate disagreeable qualities to it. If it should be needful to filter or strain the liquor, care must be taken that the filter or strainer be of vegetable matter: woollen, silk, and that sort of filtering paper which is made of animal substances, are quickly corroded and dissolved by it.

The liquor is most conveniently weighed in a narrow-necked glass bottle, of such a size, that the measure of a wine pint may arise some height into its neck; the place to which it reaches being marked with a diamond. A pint of the common leys of our soft soap-makers weighs more than sixteen ounces. It has been found that their soap-leys will be reduced to the standard here proposed, by mixing it with something less than an equal measure of water.

KALI PURUM;

*vulgo*ALKALI VEGETABILE
CAUSTICUM.*Pure Kali.**Lond.*

Take of water of pure kali, one gallon. Evaporate to dryness, then let the salt be melted upon the fire, and poured out. In the Edinburgh Dispensatory this is described more particularly under the succeeding article:—

CAUSTICUM COMMUNE
ACERRIMUM.*The strongest common caustic.**Edinb.*

Take of caustic ley what quantity you please. Evaporate it in a very clean iron vessel on a gentle fire, until, on the ebullition ceasing, the saline matter gently flows like oil; which happens before the vessel becomes red. Pour out the caustic, thus liquefied, upon a smooth iron plate;

let it be divided into small pieces before it hardens, and these are to be put into phials close stopped.

This is a sudden and very powerful caustic. It has an inconvenience of being apt to liquefy too much upon the part to which it is applied, so that it is not easily confined within the limits in which it is intended to operate: and indeed the suddenness of its action depends on this disposition to liquefy.

CALX E KALI PURO;

formerly

CAUSTICUM COMMUNE
FORTIUS.

Stronger common caustic.

Take of

Quick lime, five pounds and four ounces;

Water of pure kali sixteen pounds.

Boil away the water of kali to a fourth part, then sprinkle in the lime, previously flaked. Keep it in a vessel close stopped.

CAUSTICUM COMMUNE
MITIUS.

The milder common caustic.

Edinb.

Take of caustic ley what quantity you chuse. Evaporate in an iron vessel, till one third remains; then mix with it as much new flaked lime, as will bring it to the consistence of a pretty solid pap, which is to be kept in a vessel closely stopped.

Here the addition of lime in substance renders the preparations less apt to liquefy than the foregoing, and consequently more easily confinable within the intended limits, but proportionably slower in their operation.

It is observable, that both these caustics, and the soap leys, that is, alkaline salts increased in their power by quicklime, do not effervesce or emit air-bubbles, at least in any considerable degree, on the ad-

mixture of acids; though this effervescence has been commonly reckoned one of the principal distinguishing characters of alkaline salts. Exposed long to the air, they gradually resume their power of effervescence, and lose proportionably the additional activity which the quicklime had produced in them.

CAUSTICUM COMMUNE
MITIUS.

The milder common caustic.

Lond.

Take of

Fresh quicklime,

Soft soap, of each equal parts.

Mix them well together, at the time of using.

This caustic, notwithstanding the lime be used fresh, proves much milder than the former; the acrimony of the salt being here covered by the oil and tallow, by which it is reduced into soap.

NITRUM FIXUM,

Fixt nitre.

Take of

Powdered nitre, four ounces;

Charcoal in powder, five drams.

Mix them thoroughly together, by rubbing them in a mortar, and inject the mixture, by a little at a time, into a red-hot crucible. A deflagration, or a bright flame with a hissing noise, happens on each injection. The whole quantity being thus deflagrated, continue the fire strong for half an hour.

Nitre is composed of the common vegetable fixt alkaline salt, and a peculiar acid. In this process, the acid is destroyed or changed to another nature; and the remaining salt proves merely alkaline, not different in quality from the *sal tartari*, except that a very minute portion of the nitre generally remains unchanged; the salt is purified by solution in water, filtration, and evaporation. It may be observed, that the salt receives no

sensible addition from the vegetable coal employed for the deflagration; for the ashes of charcoal have very little saline matter; and the quantity of charcoal above directed yields only a grain or two of ashes.

LIXIVA PURIFICATA;

vulgo

SAL ALCALINUS FIXUS VEGETABILIS PURIFICATUS.

*Purified Lixiva.**Edinb.*

Let the alkaline salt, called in England pearl-ashes, be put into a crucible, and brought to a reddish heat; that the oily impurities, if there be any, may be destroyed, then having beat and agitated it with an equal quantity of water, let them be well mixed. Pour the liquor, after the fæces have subsided, into a very clean iron pôt, and boil to dryness, constantly stirring the salt towards the end of the process, that it may not adhere to the vessel.

This preparation is frequently employed in conjunction with other articles, particularly for the formation of saline neutral draughts and mixtures; and it is used also by itself, in doses from three or four grains to fifteen or twenty, and frequently operates as a powerful *diuretic*, particularly when plenty of diluted liquids is taken with it.

AQUA LIXIVIA CAUSTICA;

vulgo

LIXIVIUM CAUSTICUM.

Caustic lixivial water.

Take of

Fresh burnt quicklime, eight ounces;

Purified fixed alkaline vegetable salt, six ounces.

Throw the quicklime with twenty ounces of warm water into an iron or earthen vessel. When the extinction and ebullition of the lime is completely finished,

immediately add the salt; these being well mixed, let the vessel be kept shut till it cools; shake up the cool matter, and pour out the whole into a glass funnel, whose throat must be stopped with clean rag. Let the upper part of the funnel be covered close, whilst the tube of it is inserted into another glass vessel, that the lixivium may gradually drop into the vessel placed below. As soon as it shall cease to drop, pour into the funnel some ounces of water, but cautiously, that the water may swim above the matter; the lixiviated water will again begin to drop, and thus must the affusion of water be repeated, till three pounds have dropped, which will take up two or three days, then shake the superior with the inferior portions of the liquor together, mix and keep it in a vessel well stopped.

This lixivium properly prepared has neither smell nor colour, neither will it effervesce but perhaps very slightly with acids. Colour and smell indicate the salt has not been sufficiently calcined; the effervescence, that the lime has not been good.

The reason of the great nicety required in the operation is very obviously to prevent absorption of fixed air from the atmosphere; for the mildness or the causticity of alkalies, whether fixed or volatile, depend upon fixed air; the *first* depends upon the union with, the *last* upon the deprivation of it; thus quicklime having a greater affinity with fixed air than alkali, the fixed air in this process quits the alkaline salt and unites with the quicklime, rendering the salt caustic, and the lime mild and insoluble in water. See also Dr. Black's method of preparing this caustic fluid, which is considered the most eligible. EN-

GLYCOP. BRITAN. vol. 14. p. 339.
under CAUSTIC LEX.

By some dyspeptic patients this ley has been taken with advantage, particularly when acidities affect the stomach, attended with much flatulence and laxity, for it exerts a stimulating power, at the same time unites with the acids, without the separation of any air, as is the case where mild alcalies are used. When joined with mucilaginous substances, it may be safely taken into the stomach, and used to be given in veal broth, as a solvent of the stone; it has had also many pompous titles as a *lithontriptic*; but its reputation in this point has greatly diminished.

NATRON PRÆPARATUM.

Prepared Natron.

Lond.

Take of

Barilla powdered, two pounds;
Distilled water, one gallon.

Boil the barilla in four pints of water for half an hour, and strain and boil the part which remains after straining with the rest of the water, and strain. Mix the liquors, and evaporate to two pints; and set them by for eight days; strain this liquor again, and after due boiling set it by to crystallise. Dissolve the crystals in distilled water, strain the solution, boil and set it aside to crystallise.

The liquor upon standing deposits some feculencies, from which it is easily freed by straining it; and

the crystallisations, when properly conducted, entirely purify the natron from neutral salt, or any other remaining admixture.

SODA PURIFICATA;

vulgo

SAL ALCALINUS FOSSILIS FIXUS PURIFICATUS.

Edinb.

Take of the ashes of Spanish kali, soda, or barilla, any quantity you chuse, bruise, and boil them in water till all the salt be dissolved; afterwards let this be filtered through paper, and evaporated in an iron vessel, that, after it is cooled, it may shoot into crystals.

By the above processes the *fossil alkali* is procured sufficiently pure, being much more disposed to crystallise than the vegetable alkali; the admixture of this last is hereby in a great measure prevented.

In the island of Teneriff this natron is found lying on the ground, and is by the inhabitants called SALITRON, which is also their name for saltpetre. It is also found in the same state in some other countries.

This natural product seems to have been better known to the ancients than modern naturalists, and it is with good reason supposed to be the nitre mentioned in the Bible.

This soda not only forms the basis of several neutral salts, but is given by itself, and in its purified state supposed to be useful in scrophulous affections.

Dose, 10 grains to 3 fs.

S E C T. II.

VOLATILE ALKALINE SALTS.

AS six alkalies are produced in the burning of vegetables, and remain behind in the ashes; volatile ones are produced by a like degree of heat from animal substances, and rise in distillation

along with the other volatile principles; the admission of air, necessary for the production of the former, is not needful for the latter. These salts are obtainable also from some vegetable matters, and from vegetable and animal foot. Though a strong fire be requisite for their production, yet, when once completely formed, they are dissipated by the gentlest warmth: in distillation, they rise sooner than the most highly rectified spirit of wine. They are produced in urine, by putrefaction, without fire; and without fire also they exhale from it.

LIQUOR

formerly

SPIRITUS, SAL, et OLEUM
CORNU CERVI.

*Liquor, salt, and oil of hartshorn.
Lond.*

Take of hartshorn ten pounds, distilled by a fire gradually increased; a liquor, salt, and oil will ascend. Separate the oil and the salt from the liquor, and distil three times.

To the salt add an equal weight of prepared chalk, and sublime thrice, or until it becomes white.

The same volatile liquor, salt, and oil may be obtained from any parts, *except the fat*, of any kind of animals.

Calcined hartshorn is generally made by burning the horns left after this distillation.

Edinb.

Having poured out of the recipient all the different matters which have come over in it, they may be separated from one another in the following manner. The oil separates from the phlegm and spirit in filtration; the two latter will pass through, and the oil remain on the filter.—The *phlegm* may be separated from the spirit by distillation in a tall vessel, with a gentle heat:—the spirit will come over into the re-

ipient, and the phlegm remain at the bottom of the distilling vessel.

The spirit may be divided into a volatile salt and phlegm, by distilling it in a very tall and narrow cucurbit; the salt will arise, and adhere to the head in a dry form; the phlegm remaining behind.

The salt may be freed from the oil, by subliming it from twice its quantity of pot-ash; for the oil is kept down by the pot-ash, whilst the salt rises.

The spirit also is rendered purer, by adding, to every pint, two ounces of pot-ash, and distilling in a glass retort.

The remaining pot-ash may be again purified for use, by calcining it in an open fire, so as to burn out the oil it had absorbed from the salt or spirit.

The wholesale dealers have very large pots for the distillation of hartshorn, with earthen heads almost like those of the common still. For receivers, they use a couple of oil jars, the mouths of which are luted together; the pipe that comes from the head enters the lowermost jar, through a hole made on purpose in its bottom. When a large quantity of the subject is to be distilled, it is customary to continue the operation for several days successively; only unluting the head occasionally, to put in fresh materials.

When only a small quantity of spirit or salt is wanted, a common iron pot, such as is usually fixed in sand furnaces, may be employed; an iron head being fitted to it. The receiver ought to be large, and a glass, or rather tin-adopter, inserted betwixt it and the pipe of the head.

The distilling vessel being charged with pieces of the horn, a moderate fire is applied, which is slowly increased, and raised at length

almost to the utmost degree. At first, a phlegmatic liquor arises; the quantity of which will be less or greater, according as the horns were more or less dry: this is succeeded by the salt and oil. The salt at first dissolves, as it comes over, in the phlegm, and thus forms what is called spirit. When the phlegm is saturated, the remainder of the salt concretes in a solid form to the sides of the recipient. If it be required to have the whole of the salt solid and undissolved, the phlegm should be removed as soon as the salt begins to arise, which may be known by the appearance of white fumes: and, that this may be done the more commodiously, the receiver should be left unluted, till this first part of the process be finished. The white vapours which now arise, sometimes come with such vehemence, as to throw off or burst the receiver. To prevent this accident, it is convenient to have a small hole in the luting; which may be occasionally stopt with a wooden peg, or opened, as the operator shall find proper. After the salt has all arisen, a thick, dark-coloured oil comes over: the process is now to be discontinued, and the vessels, when grown cold, unluted.

All the liquid matters being poured out of the receiver, the salt which remains adhering to its sides is to be washed out with a little water, and added to the rest. It is convenient to let the whole stand for a few hours, that the oil may the better disengage itself from the liquor, so as to be first separated by a funnel, and afterwards more perfectly by filtration through wetted paper. The salt and spirits are then to be further purified, as before directed.

The liquor of hartshorn met with in the shops is extremely precari-

ous in point of strength; the quantity of salt contained in it (on which its efficacy depends) varying according as the distillation, in rectifying it, is continued for a longer or shorter time. If, after the volatile salt has arisen, so much of the phlegm or watery part be driven over after it, as is just sufficient to dissolve it, the spirit will be fully saturated, and as strong as it can be made. If the process be not at this instant stopt, the phlegm, continuing to arise, must render the spirit continually weaker and weaker. The distillation therefore ought to be discontinued at this period, or rather whilst some of the salt still remains undissolved. The spirit will thus prove always equal, and the buyer be furnished with a certain criterion of its strength. Very few have taken any notice of the above-mentioned inconvenience of these kinds of spirits; and the remedy is first hinted in the Pharmacopœia Reformata. The purity of the spirit is easily judged of from its clearness and grateful odour.

The volatile alkali procured from hartshorn, whether in a solid or a fluid state, is precisely the same with that obtained from sal ammoniac; therefore it is most eligible to procure these volatile substances from this salt, as the process is so much more easy, and less expensive.

AMMONIA PRÆPARATA;

vulgo

SAL VOLATILIS SALIS AMMONIACI.

Lond. Edinb.

Ammonia prepared.

L. E.

Take of

Sal ammonia powdered, one pound;

Prepared chalk, two pounds.

Mix and sublime, from a retort into a refrigerated receiver.

AQUA AMMONIÆ;

formerly

SPIRITUS VOLATILIS SALIS AMMONIACI.

*Water of ammonia.**Lond.*

Take a pound and a half of pot-ash, a pound of sal ammoniac, and four pints of water. Distil off, with a gentle heat, two pints.

Edinb.

Take of sal ammoniac, purified lixiva, or vegetable alkali, of each sixteen ounces. The salts being mixed and put into a glass retort, pour on the water, then distil with a sand bath to dryness, gradually increasing the heat.

From the residuum, which is the SAL DIGESTIVUM SYLVII, a combination of muriatic acid, and vegetable alkali, called *Kali muriatum*, distilled in the ordinary way with vitriolic acid; the saline mass left in the retort is the kali vitriolatum.

Sal ammoniac is a neutral salt, composed of volatile alkali and marine acid. In these processes, the acid is absorbed by the fixt alkali or chalk; and the volatile alkali is of course set at liberty.

The fixt alkali begins to act upon the sal ammoniac, and extricates a pungent urinous odour, as soon as they are mixed. Hence it is most convenient not to mix them till put into the distilling vessel: the two salts may be dissolved separately in water, the solutions poured into a retort, and a receiver immediately fitted on. An equal weight of the fixt salt is fully, perhaps more than, sufficient, to extricate all the volatile.

Chalk does not begin to act upon the sal ammoniac, till a considerable heat be applied. Hence these may be without inconvenience, and indeed ought to be, thoroughly mixed together, before they are put into the retort. The surface of the

mixture may be covered with a little more powdered chalk, to prevent such particles of the sal ammoniac, as may happen to lie uppermost, from subliming unchanged. Though the fire must here be much greater than when fixt alkaline salt is used, it must not be too strong, nor too suddenly raised; for, if it be, a part of the chalk (though of itself not capable of being elevated by any degree of heat) will be carried up along with the volatile salt. M. du Hamel experienced the justness of this observation; he relates, in the Memoirs of the French academy of sciences for the year 1735, that he frequently found his volatile salt, when a very strong fire was made use of in the sublimation, amount to more, sometimes one half more, than the weight of the crude sal ammoniac employed; and that, though it be certain that not three-fourths of this concrete are pure volatile salt, the fixt earthy matter, thus once volatilised by the alkali, arose along with it again upon the gentlest resublimation, dissolved with it in water, and exhaled with it in the air.

When all the salt has sublimed, and the receiver grown cool, it may be taken off, and luted to another retort charged with fresh materials. This process may be repeated, till the recipient appear lined with volatile salt to a considerable thickness. The vessel must then be broken in order to get out the salt.

The volatile salt and spirit of sal ammoniac are the purest of all the medicines of this kind. They are somewhat more acrimonious than those produced directly from animal substances, which always contain a portion of the oil of the subject, and receive thence some degree of a saponaceous quality. These last may be reduced to the same degree of purity, by combin-

ing them with acids into ammoniacal salts; and afterwards recovering the volatile alkali from these compounds by the processes before directed.

The matter which remains in the retort, after the distillation of the spirit, and sublimation of the salt, of sal ammoniac, is found to consist of marine acid united with the fixt alkali or chalk employed. When fixt alkaline salt has been used as the intermedium, the residuum, or caput mortuum, as it is called, yields, on solution and crystallisation, a salt exactly similar to the *spiritus salis marini coagulatus* hereafter described; and hence we may judge of the extraordinary virtues formerly attributed to this salt, under the names of *sal antihystericum*, *antihypochondriacum*, *febrifugum*, *digestivum* Sylvii, &c.

The caput mortuum of the volatile salt, where chalk is employed as an intermedium, exposed to a moist air, runs into a pungent liquor, which proves nearly the same with a solution of chalk made directly in the marine acid. It is called by some, *oleum cretæ*, oil of chalk. If calcined shells or other animal limes be mingled with sal ammoniac, a mass will be obtained, which likewise runs in the air, and forms a liquor of the same kind. This liquor has been the secret of some pretenders to a dissolvent of the calculus.

SPIRITUS, SAL, et OLEUM FULIGINIS.

Spirit, salt, and oil of wood foot.
 Lond.

Distil foot after the same manner as directed before for hartshorn: but here more labour is required to render the spirit and salt pure.

The volatile salt and spirit of foot are, when sufficiently purified, not different in quality from those of animal substances; though some

have preferred them in nervous complaints, particularly in epileptic cases.

Volatile alkaline salts, and their solutions called spirits, agree, in many respects, with fixt alkalies and their solutions or eys; as in changing the colour of blue flowers to a green; effervescing with and neutralising acids; liquefying the animal juices, and corroding the fleshy parts, so as, when applied to the skin, and prevented from exhaling by a proper covering, to act as caustics; and dissolving oils, and sulphur, though less readily than the fixed alkalies, on account, probably, of their not being able to bear any considerable heat, by which their activity might be promoted. Their principal difference from the other alkalies seems to consist in their volatility. They exhale or emit pungent vapours, in the coldest state of the atmosphere; and by their stimulating smell they prove serviceable in languors and faintings. Taken internally, they discover a greater colliquating as well as stimulating power; the blood drawn from a vein, after their use has been continued for some time, being found to be remarkably more fluid than before. They are likewise more disposed to operate by perspiration, and to act on the nervous system. They are particularly useful in lethargic cases; in hysterical and hypochondriacal disorders, and in the languors, head-achs, inflations of the stomach, flatulent colics, and other symptoms which attend them. They are generally found more serviceable to aged persons, and in phlegmatic habits, than in the opposite circumstances. In some fevers, particularly those of the low kind, accompanied with a cough, hoarseness, redundancy of phlegm, and siness of the blood, they are of

great utility; liquefying the viscid juices, raising the vis vitæ, and exciting a salutary diaphoresis; but in putrid fevers, scurvies, and wherever the mass of blood be thin and acrimonious, they do harm. As they are more powerful than the fixt salts in liquefying fizy blood and tenacious humours, so they prove more hurtful, where the fluids are already in a colliquated state. In vernal intermittents, particularly those of the slow kind, and where the blood is dense or fizy, they are often the most efficacious remedy. Mr. Bisset observes, in his Essay on the Medical Constitution of Great Britain, that, though many cases occur which will yield to no other medicine than the bark, he has met with many that were only suppressed from time to time by the bark, but were completely cured by alkaline spirits; that these spirits will often carry off vernal intermittents, without any previous evacuation; but that they are generally more effectual, if a purge be premised; and in plethoric or inflammatory cases, or where the fever personates a remittent, venesection.

These salts are most commodiously taken in a liquid form, largely diluted; or in that of a bolus, which should be made up only as it is wanted. The dose is from a grain or two to ten or twelve. Ten drops of a well-made spirit, or saturated solution, are reckoned to contain about a grain of the salt. In intermittents, fifteen or twenty drops of the spirit are given in a tea-cup full of cold spring water, and repeated five or six times in each intermission.

The volatile salts and spirits prepared from different animal substances have been supposed capable of producing different effects upon the human body, and to receive specific virtues from the subject. The salt of vipers has been

esteemed particularly serviceable in the disorders occasioned by the bite of that animal; and a salt drawn from the human scull, in diseases of the head. But modern practice acknowledges no such different effects from these preparations, and chemical experiments have shown their identity. There is, indeed, when not sufficiently purified, a very perceptible difference in the smell, taste, degree of pungency, and volatility of these salts; and in this state their medicinal virtues vary considerably enough to deserve notice: but this difference they have in common, according as they are more or less loaded with oil, not as they are produced from this or that animal substance. As first distilled, they may be looked upon as a kind of volatile soap, in which the oil is the prevailing principle: in this state, they have much less of the proper alkaline acrimony and pungency, than when they have undergone repeated distillations, and such other operations as disengage the oil from the salt; for, by these means, they lose their saponaceous quality, and acquiring greater degrees of acrimony, become medicines of a different class. These preparations, therefore, do not differ near so much from one another, as they do from themselves in different states of purity. To which may be added, that, when we consider them as loaded with oil, the virtues of a distilled animal oil itself are likewise to be brought into the account.

These oils, as first distilled, are highly fetid and offensive, of an extremely heating quality, and of such activity, that, according to Hoffman's account, half a drop, dissolved in a dram of spirit of wine, is sufficient to raise a copious sweat. By repeated rectifications they lose their offensiveness, and at the same time become mild in their medi-

nal operation. The rectified oils may be given to the quantity of twenty or thirty drops, and are said to be anodyne and antispasmodic, to procure a calm sleep and gentle sweat, without heating or exagitating the body. It is obvious, therefore, that the salts and spirits must differ, not only according to the quantity of oil they contain, but according to the quality of the oil itself in its different states.

The volatile salts and spirits, as first distilled, are of a brown colour, and a very offensive smell. By repeated rectification, as directed in the processes above set down, they lose great part of the oil on which these qualities depend, the salt becomes white, the spirit limpid as water, and of a grateful odour; and this is the mark of sufficient rectification.

It has been objected to the repeated rectification of these preparations, that, by separating the oil, it renders them similar to the pure salt and spirit of sal ammoniac, which are procurable at an easier rate. But this is by no means the case. The intention is not to purify them wholly from the oil, but to separate the grosser part, and to subtilise the rest, so as to bring it towards the same state as when the oil is rectified by itself. I have repeated the rectification of spirit of hartshorn twenty times successively, and found it still to participate of oil, but of an oil very different from what it was in the first distillation.

The rectified oils, in long keeping, become again fetid. The salts and spirits also, however carefully rectified, suffer, in length of time, the same change, resuming their original brown colour and ill smell; a proof that the rectification is far from having divested them of oil.

AQUA AMMONIÆ CAUSTI-
CÆ;
vulgo

SPIRITUS SALIS AMMONIACI CUM
CALCE VIVA.

Take of

Sal ammoniac, sixteen ounces;
Quicklime, fresh burnt, two
ounces;

Water, six pints.

Add, to one pound of water put into an iron or stone-ware vessel, the quicklime beat, and cover the vessel for twenty-four hours, till the lime falls into a fine powder, which put into a retort; to this add the sal ammoniac dissolved in five pints of water; the mouth of the retort being closed, shake them well together, so that they may be properly mixed. Lastly, let the distillation be performed with a very gentle heat, so that the operator's hand can easily bear the heat of the retort when he touches it, and the spirit pass into a refrigerated receiver, until twenty ounces shall have been distilled.

In this distillation the vessels are to be so luted together, as to prevent the escape of the most subtle vapours; and before the retort has cooled, let the vessels be separated, and the liquor poured out.

AQUA AMMONIÆ PURÆ;
formerly

SPIRITUS SALIS AMMONIACI CUM
CALCE.

*Water of pure Ammonia.
Lond.*

Take of

Sal ammoniac, one pound;
Quicklime, one pound and a half;
Water, one gallon.

Add to the lime two pints of the water, and let them stand together an hour, then add the sal ammoniac and the six pints of water boiling hot, and immediately cover the vessel. Pour out the liquor when cold, and distil with a slow fire one pint.

The effect of the quicklime on the sal ammoniac is very differen

from that of the chalk, and fixt alkali in the foregoing process. Immediately on mixture, a very penetrating vapour exhales; and, in distillation, the whole of the volatile salt arises in a liquid form; no part of it appearing in a concrete state, how gently soever the liquor be re-distilled. This spirit is far more pungent than the other, both in smell and taste; and, like fixt alkalies rendered caustic by the same intermedium, it raises no effervescence on the admixture of acids.

The reasoning on this process is exactly the same as that on the *aqua lixivia caustica*, with regard to the mode by which the alkali assumes its caustic form.

This spirit is held too acrimonious for internal use, and has therefore been chiefly employed for *smelling to in faintings*, &c. though, when properly diluted, it may be given inwardly with safety. It is an excellent menstruum for some vegetable substances, as Peruvian bark, from which the other spirit extracts little. It is also most convenient for rendering oils miscible in water, as in oily mixtures.

Some have mixed a quantity of this with the officinal spirits both of sal ammoniac and of hartshorn, which thus become more pungent,

so as to bear an addition of a considerable quantity of water, without any danger of discovery from the taste or smell. This abuse would be prevented, if what has been formerly laid down as a mark of the strength of these spirits (some of the volatile salt remaining undissolved in them) were complied with.

It may be detected by adding to a little of the suspected spirit about one-fourth its quantity or more of rectified spirit of wine; which, if the volatile spirit be genuine, will precipitate a part of its volatile salt, but occasions no visible separation or change in the caustic spirit, or in those which are sophisticated with it.

Others have substituted for the spirit of sal ammoniac, a solution of crude sal ammoniac and fixt alkaline salt mixed together. This mixture deposits a saline matter on the addition of spirit of wine, like the genuine spirit; from which however it may be distinguished, as the salt, thus separated, is not a volatile alkaline, but a fixt neutral salt. *The abuse may be more readily detected* by a drop or two of solution of silver made in aqua-fortis; which will produce no change in the appearance of the true spirit, but will render the counterfeit turbid and milky.

SECT. III.

COMBINATION OF ALKALIES WITH OILS AND INFLAMMABLE SPIRITS.

SAP0 AMYGDALINUS.

Almond soap.

TAKE any quantity of fresh-drawn oil of almonds, and thrice its quantity by measure of the *aqua lixivia caustica*. Digest

them together in such a heat, that they may but just boil or simmer, and in a few hours they will unite; after which, the liquor in boiling will soon become ropy, and in good measure trans-

parent: a little of it suffered to cool will appear like jelly. When this happens, throw in by little and little some common salt, till the boiling liquor loses its ropiness; and continue the coction, till, on receiving some drops on a tile, the soap is found to coagulate, and the water freely separates from it. The fire being then removed, the soap will gradually rise to the surface of the liquor. Take it off before it grows cold, and put it into a wooden mould or frame, which has a cloth for its bottom: afterwards take out the soap, and set it by till sufficiently dried.

After the same manner, a soap may likewise be made with oil of olives; but the purest oil must be used, that the soap may be as little ungrateful as possible either to the palate or stomach.

This process is so fully described, as to render any further directions unnecessary. The general virtues of soaps have been already delivered. (See SAPO, *Materia Medica*.) That prepared after this manner is not different in quality from the hard sort before mentioned. The strength of soaps varies considerably with their age, and the manner in which they have been kept. Fresh soap, though apparently of a good consistence, loses, upon being thoroughly dried, near one-third of its weight; the whole of which loss is mere water; a circumstance to be particularly attended to in the exhibition of this medicine.

Soap is decomposed by all acids; and hence it does not lather with waters that contain any acid unneutralised. In pure water, it dissolves into a milky liquor, which, on dropping in some oil of vitriol, forms a kind of coagulum. On adding more of the acid, the liquor becomes clear, the oil of the soap rises to the surface, its alkali uniting

with the acid, and forming saline concretions at the bottom. The oil, carefully collected, proves remarkably purer than when it first entered the composition of the soap; and, like the essential oils of vegetables, dissolves in spirit of wine: it may possibly be applicable to some useful purposes, as it seems to be freed from its grosser matter, extremely pure, and is void of the pungency of essential oils.

It follows from the above experiments, that no kind of acid ought to be used along with soap; all acids absorbing the alkaline salt of the soap from the oil. NEUTRAL SALTS have not this effect, their acid being already satiated with an alkali: but salts composed of an acid and an earthy or metallic body, as the purging bitter salt, vitriol, &c. decompose the soap equally with pure acids; acids quitting an earth or metal, to unite with an alkali brought in contact with them.

Soap dissolves likewise, but in small quantity, in pure spirit of wine: it is observable of this solution, that, if exposed to a degree of cold a very little greater than that in which water begins to freeze, it congeals into a solid pellucid mass.

The menstruum which dissolves soap most perfectly, and in greatest quantity, is a pure proof spirit. The common proof spirits have a slight acidity, not indeed distinguishable by the taste or by the usual ways of trial, but sufficient to give somewhat of a milky hue to solutions of soap made in them. This may be corrected by the addition of a little alkaline salt. Mr. Geoffroy observes, in the Memoirs of the French Academy, that twenty-eight parts of good proof spirit, with the addition of one part of salt of kali, will dissolve ten parts of good hard soap into a perfectly limpid liquor. The common alkaline salts, as that of tartar, answer

equally in this respect with soda; but the latter, being much less acrimonious, seems preferable, where the solution is intended for medicinal use.

This facility of the decomposition of soap by acids, renders it an useful criterion of low degrees, of unneutralized acidity in waters, &c. The limpid solution of soap in proof spirit, dropt into any liquor that contains either a pure acid, or a salt composed of an acid, with an earth or metal, renders the liquor immediately milky, more or less, in proportion to the quantities with which it is impregnated.

SAPO PURIFICATUS.

Purified soap.

Slice one pound of dry, hard, Genoa, Alicant, or any other oil-soap, into a clean pewter vessel, and pour upon it two gallons of rectified spirit of wine. Place the vessel in a water-bath, and apply such a degree of heat as may make the spirit boil, when it will soon dissolve the soap. Let the vessel stand close covered, in a warm place, till the liquor grow perfectly clear; if any oily matter swim upon the surface, carefully take it off. Then decant the limpid liquor from the feces, and distil off from it all the spirit that will arise in the heat of a water-bath. Expose the remainder to a dry air for a few days, and it will become a white, opaque, and somewhat friable mass. *Pract. Chem.*

Soap thus purified has little or no smell, and proves, upon examination, not in any degree acrimonious, but quite mild and soft, and consequently well fitted for medicinal purposes.

SAPO TARTAREUS.

Soap of tartar.

Take any quantity of salt of tartar, very well calcined, and reduced into powder whilst hot.

Immediately pour upon it, in a broad glass vessel, twice its quantity of oil of turpentine, and let them stand together in a cellar for some weeks, till the oil has penetrated the salt: then add more oil by degrees, till the salt has absorbed thrice its own quantity, and both appear united into a soap, which, if the matter be every day stirred, will happen in a month or two. The effect succeeds sooner, if the containing vessel be fixed to the sail of a windmill, or any other machine that turns round with great velocity.

This tedious process, which is taken from a former edition of the Edinburgh Pharmacopœia, might be finished in a very little time, by duly attending to a circumstance which our chemists, and the pharmaceutical writers, have in general overlooked; and which many have supposed to be a means even of preventing success. If the oil be poured upon the pulverized salt whilst very hot, they will immediately unite, with a hissing noise; and, by rubbing for a few minutes in a hot mortar, form a truly saponaceous mass, the medicine here intended. If the salt be suffered to grow cold before the addition of the oil, it is scarce possible to unite them, as the committee of the London college observes, without the addition of a little water, which in this case promotes the effect. The regular, uniform motion above recommended, does not answer so well as agitation, or rubbing in a mortar; the different degrees of centrifugal force which the oil and salt acquire, when moved circularly, tending to keep them apart. The salt does not retain so much of the oil as might be expected; far the greater part of this volatile fluid being dissipated in the process. Mr. Baumé relates, in his *Manuel*

de Chemie, that experiments have convinced him the soap consists of only the resinous part of the oil united with the alkali; that the more fluid and well rectified the oil is, the less soap is obtained; and that, by adding a little turpentine in substance to the mixture, the preparation is considerably accelerated.

This medicine has been greatly celebrated as a *diuretic*, in nephritic complaints, and as a *corrector* of certain vegetable substances, particularly opium; it was for some time a great secret in the hands of its first preparer, Starkey, under the names of philosophic soap, the vegetable corrector, &c. Its virtues, however, have not been sufficiently warranted by experience; nor does the present practice pay any regard to it. Accordingly both the London and Edinburgh colleges have rejected it at a late reformation of their pharmacopœias.

LOTIO SAPONACEA.

Saponaceous lotion.

Lond.

Take of

Damask rose water, three quarters of a pint;

Oil olive, one quarter of a pint;

Water of kali, half an ounce by measure.

Grind the water of kali and the oil together, until they unite; then gradually add the rose water.

This is designed for external use, as a detergent wash; and, like other soapy liquors, answers this purpose very effectually. Where it is required to be more deterfive, it may be occasionally rendered so, by the addition of a small quantity of a solution of any fixt alkaline salt.

LINIMENTUM SAPONIS COMPOSITUM;

formerly

LINIMENTUM SAPONACEUM.

Compound soap liniment.

Lond.

Take of

Spirit of rosemary, one pint;
Hard Spanish soap, three ounces;
Camphor, one ounce.

Digest the soap in the spirit of rosemary, until it is dissolved; then add the camphor.

LINIMENTUM SAPONACEUM;

formerly

BALSAMUM SAPONACEUM, vulgo OPODELDCH.

Soap Liniment.

Edinb.

Take of

Spanish soap four ounces;

Camphor, two ounces;

Essential oil of Rosemary, half an ounce;

Rectified spirit of wine, two pints.

Digest the soap in the spirit of wine, with a gentle heat, till it be dissolved; then add the camphor and the oils, and shake the whole well together, that they may be perfectly mixed.

These compositions also are employed chiefly, for external purposes, against rheumatic pains, sprains, bruises, and other like complaints. Soap acts to much better advantage, when thus applied in a liquid form, than in the solid one of a plaster.

LINIMENTUM OPIATUM;

formerly

BALSAMUM ANODYNUM, vulgo BATEANUM.

OPIATED LINIMENT.

Edinb.

Take of

White soap, four ounces;

Crude opium, an ounce;

Camphor, two ounces;

Essential oil of rosemary, half an ounce;

Rectified spirit of wine, two pints.

Digest the spirit with the soap and opium, in a gentle sand-heat, for three days; then strain the

liquor, add to it the camphor and essential oil, and shake the whole well together.

This composition is greatly commended for allaying pains, and is said to have been sometimes used with benefit *even in the gout*; a cloth dipt in it being laid on the part. It is sometimes likewise directed to be taken inwardly, in the same disorder, as also *in nervous colics, jaundices, &c.* from twenty to fifty drops or more; though surely, in gouty cases, the use of opiate medicines requires great caution. One grain of opium is contained in about ninety drops of the balsam.

LINIMENTUM AMMONIÆ;

formerly
LINIMENTUM VOLATILE.

Liniment of AMMONIA.

Lond.

Take of

Olive oil, one ounce and a half;
Water of ammonia, half an ounce.

Cork the phial, and shake them together.

The stronger liniment of ammonia of the London Pharmacopœia is made by adding water of ammonia and olive oil, of each half an ounce, to the foregoing quantities.

OLEUM AMMONIATUM;

vulgo
LINIMENTUM VOLATILE.

Ammoniated oil.

Edin.

Take of

Olive oil, two ounces;
Water of caustic ammonia, two drams;

Mix them, so that they may perfectly unite.

EPITHEMA VOLATILE.

Volatile epithem.

Take of

Venice or common turpentine,
Water of ammonia,—each equal weights.

Stir the turpentine in a mortar, gradually dropping in the spirit, until they unite into a white mass.

The three foregoing are very acrid, stimulating compositions, and are principally applied *against rheumatic and ischiadic pains.* The epithem was formerly made of a stiffer consistence, and more adhesive, by an addition of tacamahaca, which is here judiciously omitted, since it prevented the application from being so expeditiously got off from the part, as its great irritating power made sometimes necessary.

SPIRITUS AMMONIÆ;

formerly

SPIRITUS SALIS AMMONIACI DULCIS.

Spirit of ammonia.

L. E.

Take six ounces of pot-ash, four ounces of sal ammoniac, and three pints of proof spirit of wine. Distil off, with a gentle heat, a pint and a half.

The Edinburgh College orders four pounds of proof spirit to the same quantity of the above ingredients, and draw off two pounds: this, by the late Pharmacopœia of that college, was named *Spiritus salis ammoniaci vinosus.*

This spirit has come much into esteem, both as a medicine and a menstruum. It is a solution of volatile salt in rectified spirit of wine; for though proof spirit be made use of, its phlegmatic part does not arise in the distillation, and serves only to facilitate the action of the pure spirit upon the ammoniacal salt. Rectified spirit of wine does not dissolve volatile alkaline salts by simple mixture: on the contrary, it precipitates them, as has been already observed, when they are previously dissolved in water: but by the present process a considerable proportion of the volatile alkali is

combined with the spirit. It might perhaps, for some purposes, be more advisable, to use in this intention the volatile spirit made with quicklime: for this may be mixed at once with rectified spirit of wine, in any proportions, without the least danger of any separation of the volatile alkali.

SPIRITUS AMMONIÆ FÆTIDUS;

formerly

SPIRITUS VOLATILIS FÆTIDUS.

Fetid spirit of ammonia.

Lond.

Take of

Pot-ash, a pound and a half;

Sal ammoniac, one pound;

Asafœtida, four ounces;

Proof spirit of wine, six pints.

Draw off, with a gentle heat, five pints.

Edinb.

Take of

Spirit of ammonia, eight ounces;

Asafœtida, half an ounce.

Digest in a close vessel for twelve hours, and, with a water bath, distil eight ounces.

These are designed as *antihysterics*, and are undoubtedly very elegant ones. Volatile spirits, impregnated for these purposes with different fetids, have been usually kept in the shops. The ingredient here made choice of is the best calculated of any for general use, and equivalent in virtue to them all. The spirit is pale when newly distilled, but acquires a considerable tinge in keeping.

SPIRITUS AMMONIÆ COMPOSITUS. L.

formerly

SPITITUS VOLATILIS AROMATICUS.

COMPOUND SPIRIT OF AMMONIA.

Lond.

Take of

Essence of lemons,

Essential oil of cloves,—each two drams;

Spirit of ammonia, one quart.

Mix them.

SPIRITUS AMMONIÆ AROMATICUS;

vulgo

SPIRITUS VOLATILIS OLEOSUS, vulgo SALINUS AROMATICUS.

Volatile oily spirit, commonly called saline aromatic spirit.

Edinb.

Take of

Dulcified spirit of sal ammoniac, eight ounces;

Essential oil of rosemary, one dram and a half;

Essence of lemon-peel one dram.

Mix, that the oils may be dissolved.

Volatile salts, thus united with aromatics, are not only more agreeable in flavour, but likewise more acceptable to the stomach, and less acrimonious, than in their pure state. Both the foregoing compositions turn out excellent ones, provided the oils be good. The dose is from six drops to sixty or more.

SPIRITUS VOLATILIS AROMATICUS EXTEMPORANEUS.

Extemporaneous volatile aromatic spirit.

Take of

Dulcified spirit of sal ammoniac, one pint;

Essential oil of Jamaica pepper, two drams.

Mix them together, that the oil may be dissolved.

Or,

Take of

Spirit of wine, highly rectified, Spirit of sal ammoniac,—each

half a pint;

Essential oil of Jamaica pepper, two drams.

Dissolve the oil in the spirit of wine, and mix this solution with the spirit of sal ammoniac: a white

coagulum will be immediately formed, which, in a warm place, soon resolves into a transparent liquor, depositing a quantity of a volatile oily salt.

By either of these methods, a volatile oily spirit may be made occasionally, and adapted, at pleasure, to particular purposes, by chusing an essential oil proper for the intention. Thus in *hysterical disorders*, where the *uterine purgations are deficient*, a preparation of this kind made with the oils of rue, favin, penny-royal, or similar plants, proves an useful remedy;—for *weakness of the stomach*, oil of mint may be taken;—where a *cephalic is required*, oil of marjoram, lavender, or rosemary;—in *coldness and faintings*, oil of cinnamon;—in *cases of flatulencies*, the oils of aniseeds and sweet fennel seeds. These last greatly cover the pungency of the volatile spirit, and render it supportable to the palate. The spirits thus made by simple mixture, are no wise inferior, in medicinal efficacy, to those prepared by distillation, though the tinge, which they receive from the oil, may render them to some persons less sightly.

SPIRITUS VOLATILIS SUCCINATUS.

Succinated volatile spirit.

Take of

Rectified oil of amber, one scruple by weight;

Alcohol, one ounce;

Water of pure ammonia, four ounces;

Soap, ten grains.

Digest the soap and oil of amber in the alcohol, until they are dissolved; then add the water of pure ammonia, and mix them by shaking.

This composition is extremely penetrating, and has come into esteem, particularly for smelling to in *lownesses and faintings*, under the name of *Eau de luce*; and also given sometimes internally as a powerful stimulant and diaphoretic, to adults, from fifteen drops to sixty, on the sudden subsiding of exanthemata, and receding of arthritic appearances from the extremities. It is not quite limpid, for the oil of amber dissolves only imperfectly in the spirit. If the volatile spirit be not exceedingly strong, scarcely any of the oil will be imbibed.

S E C T . IV.

ACID SPIRITS.

ACIDUM VITRIOLICUM;

Vitriolic acid.

Called formerly

SPIRITUS ET OLEUM VITRIOLI.

THIS acid was formerly obtained by distillation from vitriol of iron; but is now produced by combustion of sulphur. In this

operation there are three conditions requisite.

Vital air must be present to maintain the combustion; the vessel must be close to prevent the escape of the volatile matter which rises; and water must be present to imbibe it.

For these purposes a mixture

with eight parts of sulphur with one of nitre is placed in a proper vessel, inclosed within a chamber of considerable size, lined on all sides with lead, and covered at bottom with a shallow stratum of water. The mixture being set on fire, and shut up, will burn for a considerable time, by virtue of the supply of vital air which nitre gives out when heated; and the water, imbibing the sulphureous vapours, becomes gradually more and more acid, after repeated combustions, and the acid is afterwards concentrated by distillation.

Pure vitriolic acid is colourless, and emits no fumes. Its specific gravity to that of water is, as 1850 to 1000. It strongly attracts water, which it imbibes from the atmosphere very rapidly, and in large quantities, if suffered to remain in an open vessel. If it be mixed with water it produces an instantaneous heat, nearly equal to that of ebullition. Its action upon all earths, except the silicious; upon alkaline salts; upon many metals; and almost every other combustible substance is very strong; and in fine possesses the general properties of acids in an eminent degree.

Vitriolic acid is used EXTERNALLY, in the *itch*, and other *eruptions*, also as an irritant, and rubefacient in *local palsy*, and *rheumatism*, in form of an unguent, by adding to any mild ointment one eighth part of the acid. INTERNALLY it has been proposed as a *solvent for the human calculus*, diluted with water; because on that substance it shows considerable action out of the body. It is much used in *morbid acidity*, *relaxation*, and *weakness of the stomach*, not only an account of its checking fermentation; but as it possesses tonic and astringent pow-

ers. Its effects are propagated over the system, hence it is recommended as very efficacious in *passive hæmorrhages*, *glects*, and *fevers of the typhous kind*. It is likewise administered internally in the *itch*, and other *chronical eruptions*; and when given to nurses, is said to cure both themselves and their children. With ardent spirits, alkaline salts, and different metallic substances, &c. it forms a variety of medicinal compositions, of which we shall have occasion to treat in the succeeding part of this work.

ACIDUM VITRIOLICUM DILUTUM;

formerly
SPIRITUS VITRIOLI
TENUIS.

Diluted vitriolic acid.
 Lond.

Take of

Vitriolic acid, one ounce by weight;

Distilled water, eight ounces by weight.

Mix them by degrees.

In the Edinburgh Pharmacopœia, one part of the vitriolic acid is ordered to be mixed with seven of water.

This is inserted by the London college as being supposed capable of answering every salutary advantage expected from the elixir vitrioli acidum, which is therefore rejected from their Dispensatory, though it is retained by the Edinburgh under the following title:

ACIDUM VITRIOLI AROMATICUM.

Aromatic acid of vitriol.
 Edinb.

Take of

Rectified spirit of wine, two pounds;

Vitriolic acid, six ounces.

Drop the acid into the spirit gradually; digest the mixture with

a very gentle heat in a vessel close covered, for three days; then add

Cinnamon, one ounce and a half;

Ginger, one ounce.

Let these be again digested, in a close vessel, for six days; then filter through paper put within a glass funnel.

ACIDUM NITROSUM;

formerly

SPIRITUS NITRI GLAUBERI.

Nitrous acid.

Lond.

Take of

Purified nitre, sixty ounces;

Vitriolic acid, by weight, twenty-nine ounces.

The specific gravity of this is to the weight of water as 1550 to 1000.

Mix and distil them cautiously and gradually together, under a chimney; and then distil, at first with a gentle, and afterwards with a stronger heat.

Edinb.

Put two pounds of nitre into a glass retort; and add by degrees one pound of vitriolic acid. Distil in a sand heat, gradually increased, till the iron sand-pot becomes of a dull red colour. If the acid and nitre are mixed in this way, the mixture should be made under a chimney, that the operator may avoid the red corrosive fumes which rise very copiously, and are extremely pernicious. The vapours separated during the mixing of the nitrous acid and water, are the permanently elastic fluid, called *nitrous acid air*, which is deleterious to animal life.

In this process, the vitriolic acid expels that of the nitre, in red corrosive vapours. A pound of vitriolic acid is sufficient to expel all the acid from about two pounds

of nitrous nitre, not from more. Some direct equal parts of the two. The acid, in either case, is in quality the same; the difference in this respect affecting only the residuum. When two parts of nitre are taken to one of vitriolic acid, the remaining alkaline basis of the nitre is completely saturated with the vitriolic acid, and the result is a neutral salt, the same with *vitriolated tartar*. If more nitre be used, a part of the nitre in substance will remain blended with this vitriolated salt: if less nitre, it cannot afford alkali enough to saturate the vitriolic acid, and the residuum will be not a neutral salt, but a very acid one. In this last case there is one convenience; the acid salt being readily dissoluble in water, so as to be got out without breaking the retort, which the others are not.

The acid of nitre is next in strength to the vitriolic, and dissolves all but that from alkaline salts or earths. *It differs from all the other acids in deflagrating with inflammable matters.* If a solution of any inflammable substance, as hartshorn, &c. in this acid be set to evaporate, as soon as the matter approaches dryness, a violent detonation ensues. The chief use of this acid is as a menstruum for certain minerals, and as the basis of some particular preparations. It has been given likewise, diluted with any convenient vehicle, as a *diuretic*, from ten to fifty drops.

ACIDUM NITROSUM
DILUTUM.

Dilute nitrous acid.

L. E.

Take of

Nitrous acid,

Water, or distilled water,—each equal weights.

Mix them, but be careful to avoid the fumes.

ACIDUM MURIATICUM;

formerly

SPIRITUS SALIS MARINI
GLAUBERI.

Muriatic acid.

Lond.

Take of

Dried sea salt, ten pounds;

Vitriolic acid, six pounds;

Water, five pounds.

Mix the vitriolic acid with the water, and add by degrees the mixture to the salt; then distil.

The specific gravity of this is to that of distilled water as 1170 to 1000.

Edinb.

Take of

Sea salt, two pounds;

Vitriolic acid,

Water,—of each one pound.

First let the sea salt be put into a pot, and brought to a red heat by fire, that the oily folder may be destroyed; then place it in a retort. Mix the acid with the water, and after the mixture has become cold, pour it upon the sea salt. Lastly distil, from a sand-bath, with a moderate fire, so long as any acid comes over.

The mixture should be put to the salt under a chimney, as the muriatic acid, which immediately appears in the form of white fumes, ought to be avoided, because they are injurious.

In this process the marine acid is disengaged from its saline basis by the vitriolic acid; with which basis the vitriolic acid itself unites, and forms the natron vitriolatum.

The muriatic acid arises, not in red fumes like the nitrous, but in white ones. The addition of water is more necessary here than in the foregoing process; the muriatic vapours being so volatile, as scarce to condense without some adventitious humidity. The oil of

vitriol is most conveniently mixed with the water in an earthen or stone-ware vessel: for unless the mixture be made very slowly, it grows so hot as to endanger breaking a glass one.

The spirit of sea salt is the weakest of the mineral acids, but stronger than any of the vegetable. It requires a greater fire to distil it than that of nitre, yet is more readily dissipated by the action of the air. It is used chiefly as a menstruum for the making of other preparations. Sometimes likewise it is given, properly diluted, as an *antiphlogistic*, *aperient*, and *diuretic*, from ten to sixty or seventy drops.

In this place in the former Pharmacopœia succeeded the different kinds of aqua fortis, which were nothing more than modes for procuring an impure nitrous acid, unfit for medicinal purposes. It has therefore been thought proper, in imitation of the London and Edinburgh Pharmacopœia, to supply their places with the *acidum nitrosum* and *acidum nitrosum dilutum*, which are truly the aqua fortis duplex; and tenuis, in a much purer state, and better adapted for any purposes to which their application might be necessary.

ACIDUM ACETOSUM.

Acetous acid.

Lond.

Take of

Verdigrease in coarse powder, two pounds.

Dry it perfectly by means of a water-bath saturated with sea salt; then distil it in a sand-bath; and afterwards re-distil the liquor.

Its specific gravity is to that of distilled water as 1050 to 1000.

Though by this process, conducted with attention, it is allowed that the acid is acquired in its most concentrated state, still it is supposed by some that it retains a

portion of verdigris; and hence its use has in a great degree been prevented. The quantity, however, of the verdigris, if any, is so very minute, that it cannot be at all injurious to animal life, and therefore it is said to be of little consequence, especially as in the preparation of other medicines, the copper may often be separated by superior chemical affinity. If though acetic acid be required perfectly pure, and without the least foreign admixture, it may be procured by distilling it from the *kali acetatum* instead of verdigris. Or concentrated vinegar may be acquired by freezing white wine vinegar in a wooden vessel in cold winter weather, and returning the fluid in the middle separated from the ice; which may be considered sufficiently strong if one dram of it be capable of saturating a scruple of prepared kali.

AQUA AERIS FIXI.

Aërated water.

Let spring water be saturated with fixed air, or ætial acid, arising from a solution of chalk in vitriolic acid, or in any similar acid. Water may also be impregnated by this air arising from fermenting liquor.

When this water is properly impregnated with the ætial acid, it has an agreeable quick acidulous taste; which impregnation is easily performed by a simple apparatus contrived by Dr. NOOTH. It has of late been considered as a medicine of great utility in *all putrid cases*, taken internally, or administered by way of glysters; in *worm cases*; and in *gravelly complaints*; also in *complaints of the stomach* taken as common drink. In order to procure the action of fixed air upon the stomach, fifteen grains of the fixed vegetable or mineral acid is dissolved in water, and drank immediately; after

which a sufficient quantity of vegetable acid, or dilute vitriolic acid, mixed with water, as will neutralise the alkali, is taken immediately afterwards; hence a fermentation takes place, the ætial acid is set at liberty to produce its effect. Indeed, the Pyrmont, Seltzer, and some of the waters are supposed to acquire their efficacy from the fixed air with which they are impregnated.

If iron wires are suspended in this water till the water is fully saturated with the metal, an artificial chalybeate water is produced; and, indeed, simple water, by the assistance of this ætial acid, becomes a menstruum for different metallic and earthy substances; but then the water loses its properties of aërated water, and participates of those which belong to the basis with which it is united, forming different metallic or earthy salts in a dilute state.

ACETUM DISTILLATUM.

Distilled vinegar.

Lond.

Take of

Vinegar, five pints;

Distil with a gentle heat in glass vessels as long as the drops fall free from an empyreuma.

If some part of the spirit which comes over first be thrown away, the rest will be the stronger.

Edinb.

Put eight pounds of the best vinegar into a glass vessel. Let the two pounds which first come over, be thrown away, as they contain too much water; the four pounds which next follow will be the distilled vinegar, to be kept for use; what remains is a stronger acid, but too much burnt with the fire.

This process may be performed either in a common still with its head, or in a retort. The better kinds of wine vinegar should be

made use of: those prepared from malt liquors, however fine and clear they may seem to be, contain a large quantity of a viscous substance, as appears from the sliminess and ropiness to which they are very much subject; this not only hinders the acid parts from arising freely, but likewise is apt to make the vinegar boil over into the recipient, and at the same time disposes it to receive a disagreeable impression from the fire. And indeed, with the best kind of vinegar, if the distillation be carried on to any great length, it is extremely difficult to avoid an empyreuma. The best method of preventing this inconvenience is, if a retort be made use of, to place the sand but a little way up its sides, and when somewhat more than half the liquor is come over, to pour on the remainder a quantity of fresh vinegar, equal to that of the liquor drawn off. This may be repeated three or four times; the vinegar supplied at each time being previously made hot. The addition of cold liquor would not only prolong the operation, but also endanger breaking the retort. If the common still be employed, it should likewise be occasionally supplied with fresh vinegar, in proportion as the spirit runs off; and this continued, until the process can be conveniently carried no further. The distilled spirit must be rectified by a second distillation in a retort, or glass alembic; for though the head and receiver be of glass or stoneware, the acid will contract a

metallic taint from the pewter worm.

The residuum of this process is commonly thrown away as useless, though, if skilfully managed, it might be made to turn to good account; the most acid parts of the vinegar still remaining in it. Mixed with about three times its weight of fine dry sand, and committed to distillation in a retort, with a well-regulated fire, it yields an exceeding strong acid spirit; together with an empyreumatic oil, which taints the spirit with a disagreeable odour. This acid is, nevertheless, without any rectification, better for some purposes (as a little of it will go a great way) than the pure spirit; particularly for making the kali acetatum of the London Dispensatory; for there the oily matter, on which its ill flavour depends, is burnt out by the calcination.

The spirit of vinegar is a purer and stronger acid than vinegar itself, with which it agrees in other respects. The medical virtues of these liquors may be seen in the MATERIA MEDICA under the article ACETUM. Their principal difference from the mineral acids consists in their being *milder, less stimulating, less disposed to affect the kidneys, and promote the urinary secretions, or to coagulate the animal juices*. The matter, left after the distillation in glass vessels, though not used in medicine, would doubtless prove a serviceable *detergent, saponaceous acid*; and in this light it stands recommended by Boerhaave.

SECT. V.

COMBINATION OF ACID WITH VINOUS SPIRITS.

ALL the mineral acids, on being mixed with spirit of wine, raise a great ebullition and heat. If the acid be in small quantity, it unites intimately with the vinous spirit, so as to rise with it in distillation. The taste, and all the characters of acidity, are destroyed; and the mixture acquires a grateful flavour, which neither of the ingredients had before.

SPIRITUS ÆTHERIS VITRIOLICI;

formerly

SPIRITUS VITRIOLI DULCIS.

Spirit of vitriolic æther.

London.

Take rectified spirit of wine, vitriolic acid, of each one pound.

In the Edinburgh Pharmacopœia, one part of vitriolic æther is ordered to be mixed with two parts of spirit of wine, which forms the composition. In performing the process of the London Pharmacopœia, the acid is ordered to be poured to the spirit by a little at a time, and mixed by shaking; then the spirit of vitriolic æther to be distilled by a slow fire, into a tubulated receiver, to which another recipient is fixed, until sulphureous vapours begin to arise from the retort.

If another receiver be taken, and the distillation continued, a small portion of the oil of wine will come over, which may be kept for use.

The distillation should be performed with an equable and very gentle heat, and not continued so long as till a black froth begins to appear: for, before this time, a liquor will arise of a very different

nature from the spirit here intended. The several products are most commodiously kept apart by using a tubulated receiver, so placed, that its pipe may convey the matter which shall come over, into a phial set underneath: the juncture of the retort and recipient is to be luted with a paste made of linseed meal, and further secured by a piece of wet bladder: the lower juncture may be closed only with some soft wax, that the phial may be occasionally removed with ease.

The true dulcified spirit arises in thin subtile vapours, which condense upon the sides of the recipient in straight striæ. It is colourless as water, very volatile, inflammable, of an extremely fragrant smell, in taste somewhat aromatic.

After the fire has been kept up for some time, white fumes arise, which either form irregular striæ, or are collected into large round drops like oil. On the first appearance of these, the phial (or the receiver, if a common one be made use of) must be taken away. If another be substituted, and the distillation continued, an acid liquor comes over, of an exceeding pungent smell, like the fumes of burning brimstone. At length a black froth begins hastily to arise, and prevents our carrying the process further.

On the surface of the sulphureous spirit is found swimming a small quantity of oil, of a light yellow colour, a strong, penetrating, and very agreeable smell. This oil seems to be nearly of the same nature with the essential oils of vegetables. It readily and to-

tally dissolves in rectified spirit of wine, and communicates to a large quantity of that menstruum the taste and smell of the aromatic or dulcified spirit.

The matter remaining after the distillation is of a dark blackish colour, and still highly acid. Treated with fresh spirit of wine, in the same manner as before, it yields the same productions; till at length, all the acid that remains unvolatilised being insatiated with the inflammable oily matter of the spirit, the compound proves a bituminous, sulphureous mass; which, exposed to the fire in open vessels, readily burns, leaving a considerable quantity of fixt ashes; in close ones, explodes with violence; and with fixt alkaline salts, forms a compound, nearly similar to one composed of alkalies and sulphur.

Dulcified spirit of vitriol has been for some time greatly esteemed both as a menstruum and a medicine. It dissolves some resinous and bituminous substances more readily than spirit of wine alone, and extracts elegant tinctures from sundry vegetables. As a medicine, it promotes perspiration and the urinary secretion, expels flatulencies, and in many cases abates spasmodic strictures, eases pains, and procures sleep. The dose is from ten to eighty or ninety drops in any convenient vehicle. It is not essentially different from the celebrated anodyne liquor of Hoffman; to which it is, by the author himself, not unfrequently directed as a succedaneum.

ÆTHER VITRIOLICUS;

formerly
VITRIOLIC ÆTHER.

Lond.

Take of

Spirit of vitriolic æther, two pound;

Water of pure kali, one ounce.

Shake them together, and distil by a gentle heat.

Edin.

Take of

Rectified spirit of wine;

Vitriolic acid,—of each, thirty-two ounces.

LIQUOR ANODYNUS MINERALIS HOFFMANNI.

Hoffman's mineral anodyne liquor.

Into half a pound of concentrated oil of vitriol, placed in a large glass retort, pour by little and little, through a long-stemmed funnel, one pint and a half of highly rectified spirit of wine. Stop the mouth of the retort, digest for some days, and then distill with a very gentle heat. At first a fragrant spirit of wine will arise; and after it, a more fragrant volatile spirit, to be caught in a fresh receiver. The receiver being again changed, a sulphureous, volatile, acid phlegm comes over; and at length a *sweet oil of vitriol*, which should be immediately separated, lest it be absorbed by the phlegm. Mix the first and second spirits together, and in two ounces of this mixture dissolve twelve drops of the sweet oil. If the liquor has any sulphureous smell, redistill it from a little salt of tartar. *Paris.*

Whether this be the exact preparation, so much recommended and so often prescribed by Hoffman, as an anodyne and antispasmodic, we cannot determine. We learn from his own writings, that his anodyne liquor was composed of the dulcified spirit of vitriol, and the aromatic oil which arises after it; but not in what proportions he mixed them together. The college of Wirttemberg seem to think that all the oil was mixed with all the spirit obtained in one operation, without regard to the precise quantities.

AQUA RABELLIANA.

Eau de Rabel.

Take four ounces of oil of vitriol,

and twelve ounces of rectified spirit of wine. Pour the vinous spirit gradually into the acid, and digest in a close matrafs. *Parif.*

This liquor has been greatly celebrated in France as a restraining, and for the same purposes as the dulcified spirit; from which it differs in having a considerable acidity.

In making the vitriolic æther, the following directions should be carefully observed:

Pour the spirit into a glass retort, that will bear the sudden heat, and pour the acid, in an uniform stream, upon it. Mix them gradually and cautiously together, by gently and frequently shaking the retort; and immediately distil by a sand-heat, prepared before-hand for that purpose, the recipient being placed in a vessel of snow or water. The fire should be so regulated that the liquor may boil as soon as possible, and continued to boil till sixteen ounces are distilled, when the retort is to be removed from the sand.

To the distilled liquor add two drams of the stronger common caustic; and distil again, from a very high retort, with a very gentle fire, the recipient being placed as before in a refrigeratory. Continue the distillation till ten ounces are drawn off.

To the acid in the retort, after the distillation, if you pour sixteen ounces of rectified spirit of wine, and repeat the distillation, at last the æther will be obtained; and this process may be repeated several times.

The preparation of this singular fluid was formerly confined to few hands; for though several processes have been published for obtaining it, the success of most of them is precarious, and some of them are accompanied with danger to the o-

perator. It has been usual to direct the heat to be kept up till a black froth begins to appear; but if it is managed as above directed, the quantity of æther which the liquor can afford will be formed and drawn off before this sulphureous froth appears. The caustic alkali is to engage any uncombined vitriolic acid, which may be present in the first distilled liquor, without receiving a fermentation which the mild alkali would occasion, and endanger the bursting of the vessels. Indeed, without care, this danger attends the whole of the process.

Æther or æthereal spirit is the lightest, most volatile, and inflammable, of all known liquids. It is lighter than the most highly rectified spirit of wine, in the proportion of about seven to eight. A drop, let fall on the hand, evaporates almost in an instant, scarcely rendering the part moist. It mixes only in a small quantity, with water, spirit of wine, alkaline lixivia, volatile alkaline spirits, or acids; but is a powerful dissolvent, for oils, balsams, resins, and other analogous substances. It has a fragrant odour, which in consequence of the volatility of the fluid, is diffused through a large space. It has often been found to give ease in violent head-achs, by being applied externally to the part, and to relieve the tooth-ach, by being laid on the afflicted jaw. It has been given also internally, and considered a powerful tonic, and antispasmodic in dyspepsy, whooping-coughs, and hysterical cases, from two or three drops to half an ounce, in a glass of wine or water; which should be swallowed as quick as possible, as the ether so speedily exhales.

SPIRITUS ÆTHERIS NITROSI;

formerly

SPIRITUS NITRI DULCIS.

Dulcified spirit of nitre.

F f

Lond.

Take a quart of rectified spirit of wine, and half a pound of nitrous acid. Mix them, by pouring the nitrous spirit into the other; and distil with a gentle heat, one pound ten ounces.

Edinb.

Take of

Rectified spirit of wine, three pounds;

Nitrous acid, one pound.

Pour the rectified spirit of wine into a large bolt-head, placed in a vessel of cold water, and add by degrees the acid, carefully shaking the vessel: set it in a cool place, lightly stopped, for seven days; afterwards distil the liquor in a water-bath, the receiver being placed in a vessel filled either with water or snow, as long as any spirit arises.

Here the operator must take care not to invert the order of mixing the two liquors, by pouring the vinous spirit into the acid; for if he should, a violent effervescence and heat would ensue, and the matter be dispersed in highly noxious red fumes. The most convenient and safe method of performing the mixture seems to be, to put the inflammable spirit into a large glass body with a narrow mouth, placed under a chimney, and to pour upon it the acid, by means of a glass funnel, in very small quantities at a time; shaking the vessel as soon as the effervescence ensuing upon each addition ceases, before a fresh quantity is put in. By these means, the glass will heat equally, and be prevented from breaking. During the action of the two spirits upon one another, the vessel should be lightly covered; if close stopp'd, it will burst: and, if left entirely open, some of the more valuable parts will exhale. Lemery directs the mixture to be made in an open vessel: by which unscientific pro-

cedure he usually lost, as he himself observes, half his liquor: and we may presume that the remainder was not the medicine here intended.

The method used by Dr. BLACK is said to be the best for mixing these liquors. On two ounces of the strong acid he pours, slowly and gradually, about an equal quantity of water; which ley being made to trickle down the sides of the phial, floats on the surface of the acid, without mixing with it. He then adds, in the same cautious manner, three ounces of highly rectified spirit of wine, which in its turn, floats on the surface of the water. By these means, the three fluids are kept separate, on account of their specific gravities; and a stratum of water is interposed between the acid and the spirit. The phial is now set in a cool place, the acid gradually ascends, and the spirit descends through the water.

By this method a quantity of nitrous æther is formed, without the danger of producing elastic vapours or explosion.

The liquors mixed together, should be suffered to rest for at least twelve hours, that the fumes may entirely subside, and the union be in some measure completed. The distillation should be performed with a very slow and well-regulated fire; otherwise the vapour will expand with so much force as to burst the vessels. Wilson seems to have experienced the justness of this observation; and hence directs the juncture of the retort and receiver not to be luted, or but slightly. If a tubulated recipient, with its upright long pipe, be made use of, and the distillation performed with the heat of a water-bath, the vessels may be luted without any danger. This method has likewise another advantage, as it ascertains the time when the operation is fi-

wished: whilst in a water-bath, we may safely draw over all that will arise, for this heat will elevate no more of the acid than what is dulcified by the vinous spirit.

Dulcified spirit of nitre has been long held, and not undeservedly, in great esteem. It *quenches thirst, promotes the natural secretions, expels flatulencies, and moderately strengthens the stomach.* It may be given from half a dram to two drams, in any convenient vehicle. Mixed with a small quantity of spirit of hartshorn, the spiritus volatilis aromaticus, or any other alkaline spirit, it proves a *mild, yet efficacious diaphoretic, and often notably diuretic*: especially in some febrile cases, where such a salutary evacuation is wanted. A small proportion of this

spirit, added to malt spirits, gives them a flavour approaching to that of French brandy.

SPIRITUS SALIS DULCIS.

Dulcified spirit of salt.

This is made with spirit of salt, after the same manner as dulcified spirit of nitre.

The dulcification of the spirit of salt does not succeed so perfectly, as that of the two foregoing acids, only a minute portion of it uniting with the spirit of wine, and, unless the process be skilfully managed, scarce any. Some have held this spirit in great esteem against *weakness of the stomach, indigestion, and the like, following from hard drinking*; at present it is not often made use of or kept in the shops.

SECT. VI.

NEUTRAL SALTS.

WHEN any acid and alkaline salts are mixed together, in such proportion that neither of them may prevail, they form by their coalition a new compound, called NEUTRAL. In all the combinations of this kind (except some of those with vegetable acids) the alkali and acid are so strongly retained by one another, that they are not to be disunited by any degree of fire. How volatile soever the acid were by itself, if combined with a fixt alkali, it proves almost as fixt as the pure alkali. If the alkali be of the volatile kind, the compound proves also volatile, subliming in its whole substance, without any separation of its parts. There are, however, means of procuring this disunion, by the intervention of other bodies, as we have

already seen in the separation of the volatile alkali of sal ammoniac, and of the acids of nitre and sea salt. But, in all cases of this kind, only one of the ingredients of the neutral salt can possibly be obtained by itself, the separation of this happening solely in virtue of the superadded body's uniting with the other.

There is another kind of compound salts, formed by the coalition of acids with earthy and metallic bodies. These salts differ from the true neutral ones in several obvious properties; some of them change blue vegetable juices to a green like alkalies, and others to a red like acids, while neutral salts make no change in the colour; mixed with boiling milk, they coagulate it, while neutral salts rather

prevent its coagulation. From most of them the acid is disunited by fire, without the intervention of any additional matter, of which we have seen an instance in the distillation of the acid of vitriol. But the most distinguishing and universal character of these salts is, that solutions of them, on the addition

of any fixt alkali, grow turbid, and deposit - their earth or metal. It were to be wished that custom had appropriated some particular name to the salts of this class, to prevent their being confounded, which several of them have often been, with the perfect neutral salts.

	VITRIOLIC ACID.	NITROUS ACID.	MARINE ACID.	ACETOUS ACID.
COMMON FIXT ALKALI.	Vitriolated kali.	Common nitre.	Regenerated sea salt.	Acetated kali.
ALKALI OF SEA SALT.	Vitriolated natron.	Cubical nitre.	Sea salt.	A salt similar to acetat. kali.
VOLATILE ALKALI.	Philosophic sal ammon.	Volatile nitre.	Sal ammo- niac.	aqua ammon. acetat.
CALCAREOUS EARTH.	Selenites.	Calcareous nitre.	Calcareous muriatic salt.	A subastrin- gent salt.
MAGNESIA.	Vitriolated magnesia.	Purgingsalts, not distinguished by any particular name.		
SOLUBLE EARTH of CLAY.	Alum.	Astringent salts not distinguished by any particular name.		

The preceding table exhibits, at one view, the several compound salts resulting from the union of each of the pure acids with each of the common alkalies and soluble earths; the acids being placed on the top, the alkalies and earths on the left hand, and the compound salts in the respective intersections; and is thus to be understood. In the upright columns, under each of the acids, are seen the several compound salts resulting from the union of that acid with the respective alkalies and earths on the left side. In the transverse columns, opposite to each particular alkali and earth, are seen the compound salts resulting from the union of that alkali or earth with the respective acids

on the top; and conversely, of each of the compound salts expressed in the table, the component parts are found on the top of the upright column, and on the left side of the transverse column, in whose intersection that particular salt is placed. Some of these salts have been already treated of in the *Materia Medica*; but it was thought proper to unite them here into one view, for the greater perspicuity in regard to their composition, and the different properties which their component parts assume in different combinations.

CrySTALLISATION of salts.

This is a general operation on

neutral and most of the other compound salts. It depends upon these principles: that water, of a certain degree of heat, dissolves, of any particular salt, only a certain determinate quantity: that, on increasing the heat, it dissolves more and more (except only in one instance, common salt) till it comes to boil, at which time both its heat and dissolving power are at their height: that, in returning to its first temperature, it throws off again all that the additional heat had enabled it to dissolve: that, independently of any increase or diminution of heat, a gradual evaporation of the fluid itself will occasion a proportional separation of the salt: and that the particles of the salt, in this separation from the water, unless too hastily forced together by sudden cooling, or strong evaporation, or disturbed by external causes, generally concrete into transparent and regularly figured masses, called crystals. The several salts assume, in crystallisation, figures peculiar to each. Thus the crystals of nitre are hexagonal prisms; those of sea salt, cubes; those of alum, octohedral masses; while sal ammoniac shoots into thin fibrous plates like feathers.

The use of preparing salts in a crystalline form is not merely in regard to their elegance, but as a mark of, and the means of securing, their purity and perfection. From substances not dissoluble in water, they are purified by the previous solution and filtration: by crystallisation, one salt is purified from an admixture of such other saline bodies as dissolve either more easily or with more difficulty than itself. For, if two or more salts be dissolved together in a certain quantity of hot water, the salt which requires the greatest heat for its solution in that quantity of wa-

ter, will first begin to separate in cooling: and, if the water be kept evaporating, in an uniform heat, the salt which requires most water in that heat will be the first in crystallising. In all cases of this kind, if the process be duly managed, the first shootings are generally well figured and pure. The succeeding ones, sooner or later, according to the quantity of the other salts in the liquor, retain an admixture of those salts, which they betray by their smallness and figure.

In order to the crystallisation of saline solutions, it is customary to boil down the liquor, till so much of the fluid have exhaled, as that the salt begins to concrete from it even while hot, forming a pellicle upon the surface exposed to the air. When this mark appears, the whole is removed into a cold place. This method seldom affords perfect crystals: for, when water is thus saturated with the salt in a boiling heat, and then suddenly cooled; the particles of the salt run hastily and irregularly together, and form only a confused semitransparent mass. It is by slow concretion that most salts assume their crystalline form in perfection. The evaporation should be gentle, and continued no longer, than till some drops of the liquor, in a heat below boiling, being let fall upon a cold glass plate, discover crystalline filaments. The liquor is then immediately to be removed from the fire into a less warm, but not a cold place; and the vessel covered with a cloth to prevent the access of cold air, and the formation of a pellicle, which falling down through the fluid, would disturb the regularity of the crystallisation. This is the most effectual method for most salts; thought there are some, whose crystallisation is to be effected, not by an abatement of the heat, but by a

continued equable evaporation of the fluid; such in particular is sea salt.

Salts retain in crystallisation a portion of the aqueous fluid, without betraying any marks of it to the eye; on this their crystalline form appears in great measure to depend. The quantity of phlegm or water varies in different salts; dry crystals of nitre were found, on several careful trials, to contain about one-twentieth of their weight; those of alum, one-sixth; sea salt, one-fourth; borax, green vitriol, and the purging salts, no less than one half. The same salt appears always to retain nearly the same quantity.

Some salts dissolve in spirit of wine; and here also, as in water, the solution is limited, though the salt is not easily recovered in a crystalline form. Such in particular, are combinations of the nitrous acid with volatile alkalis, and with calcareous earths; of the marine acid with all the soluble earths; of the acetous with fixt and volatile alkalis. Scarce any of the compound salts, whose acid is the vitriolic, are affected by vinous spirits.

Salts differ greatly in their disposition to assume and retain a crystalline form. Many even of the compound kind imbibe humidity like fixt alkalis, so as to crystallise with difficulty, and, when crystallised, or exsiccated by heat, to deliquesce again in the air. Such are the combinations of the nitrous and marine acid with all the soluble earths, and of the acetous both with earths and alkalis. The vitriolic acid, on the other hand, forms, with all the substances it dissolves, permanent crystals; as do likewise the other mineral acids with all alkalis.

The crystallisation of those salts,

which are not dissoluble in spirit of wine, is generally promoted by a small addition of that spirit; which absorbing the water, or weakening its dissolving power on the salt, disposes the salt to part from it more freely. The operator must be careful however not to add too much of the spirit, especially where the salt is composed of an earthy or metallic body united with the acid; lest it absorb the acid as well as the water, and instead of a gradual and regular crystallisation, hastily precipitate the earth or metal in a powdery form.

Mr. Roulle, of the French academy of sciences, has examined with great attention the phenomena of the crystallisation of salts, and published the result of his observations in different volumes of the Memoirs of that academy. Among other curious particulars, he has given a general distribution of salts, in regard to their crystallisation, which will be of practical utility to the artist.

He divides evaporation into three degrees; *insensible evaporation*, or that effected by the natural warmth of the atmosphere, from freezing, up to the heat of the summer's sun; *mean evaporation*, commencing with the sun's heat, and extending to that in which the exhaling steam is visible to the eye, and the liquor too hot to be endured by the hand; and *strong evaporation*, reaching from this period to boiling. He divides salts into six classes; the distinctions of which are taken from the degree of evaporation in which they crystallise most perfectly, from the figure of their crystals, their disposition to remain single or unite in clusters, and their receiving an increase from a continuance of the crystallisation.

I. The first class consists of salts which crystallise into small plates or very thin scales. The crystals are single. They are, of all salts, those which crystallise most frequently on the surface of their solutions, which retain least water in their crystals, and require most to dissolve in. They crystallise most perfectly by insensible evaporation.

Sedative salt.

Elenites.

II. Salts whose crystals are cubes, cubes with the angles truncated, or pyramids of four or six sides. They form single, and change their figure by new accretions. By insensible evaporation they crystallise at the bottom, by mean evaporation at the surface, and by both kinds they prove perfect and regular. By strong evaporation, the liquor contracts a pellicle, and in cooling yields few crystals, and those ill figured.

Tartar.

Sea salt.

Vitriolated kali.

III. Salts whose crystals are tetrahedral, pyramidal, parallelopiped, rhomboidal, and rhomboidal parallelopipeds; with the angles variously truncated, according to different circumstances. They form single (except that some few unite by the bases) and change their figure by new accretions. They crystallise at the bottom, most perfectly by insensible evaporation; by mean and strong evaporation, the liquor contracts a pellicle, and in cooling the crystals adhere to the pellicle, and prove confused and ill formed. They retain a large quantity of water.

Blue vitriol.

Green vitriol.

Verdigris.

White vitriol.

IV. Salts whose crystals are flattened parallelopipeds, with the extremities terminating in two surfaces inclined to one another, so as to form a point and acute angles with the large sides. They cluster together, uniting, by the bases, into tufts. The crystals are largest and most regular by insensible evaporation. By mean and hasty evaporation, a pellicle is formed, and in cooling the crystals prove very small. They retain a large quantity of water in crystallisation, and require little to dissolve in.

Tartar united with volatile alkali.

Tartar united with absorbent earth.

V. Salts whose crystals are very long, in form of needles, prisms, or columns of different surfaces. They shoot at the bottom, and cluster together into tufts of regular figures. By insensible evaporation they scarce ever crystallise well. By mean and strong evaporation, they give a pellicle, and in slow cooling, if the evaporation was not carried too far, they yield perfectly well formed crystals, which at first swim, but soon fall to the bottom. If the evaporation was too long continued, the crystals prove confused and ill formed.

Nitre.

Volatile nitre.

Philosophic sal ammoniac.

Salt of amber.

Vinegar united with fixt alkali.

VI. Salts whose crystals are in very small needles, or of other indeterminate figures. None of them crystallise by insensible evaporation, and few of them by the mean degree. They require to be reduced, by strong evaporation, to a thick consistence; they then contract a pellicle, and crystallise with confusion. If the crystals be wanted regular, spirit of wine must be used, or some other medium, if the salt be soluble in spirit. They readily dissolve in water, and liquefy in the air.

Kali acetatum. Marine acid united with absorbent earths. Nitrous acid united with absorbent earths.

and tipped with little cubical glebes of sea salt.

When rough nitre, in the state wherein it is first extracted from the earths impregnated with it, is treated in this manner, there remains at last a liquor called mother-ley, which will no longer afford any crystals. This appears to participate of the nitrons and marine acids, and to contain an earthy matter dissolved by those acids. On adding alkaline lixivia, the earth is precipitated, and when thoroughly washed with water, proves insipid. If the liquor be evaporated to dryness, a bitterish saline matter is left, which being strongly calcined in a crucible, parts with the acids, and becomes, as in the other case, insipid.

This earth has been celebrated as an excellent purgative, in the dose of a dram or two; and, in smaller doses, as an alterant in hypochondriacal and other disorders. This medicine was for some time kept a great secret, under the names of *magnesia alba*, *nitrons panacea*, *count Palmer's powder*, *il polvere albo Romano*, *poudre de Sentinelli*, &c. till Lancisi made it public in his notes on the *Metallotheca Vaticana*. It has been supposed that this earth is no other than a portion of the lime commonly added to the elixation of nitre at the European nitre-works. But, though the specimens of magnesia examined by Neumann, and some of that which has been brought hither from abroad, gave plain marks of a calcereous nature; yet the true magnesia must be an earth of a different kind, calcareous earths being rather astringent than purgative. The earthy basis of the *sal catharticus amarus* is found to have the properties ascribed to the true magnesia of nitre, and appears to be the very same species of earth. From that salt therefore

NITRUM PURIFICATUM.

Putrified nitre.

Lond.

Take of

Nitre, two pounds;

Distilled water, four pints.

Boil the nitre in the water till it is dissolved; filter the solution, and set it by to crystallise.

The usual method of evaporating solutions of salts, in order to their crystallisation, until a pellicle appears upon the surface fails in nitre. Here, when the liquor becomes ready for forming crystals; if a little be taken up in a spoon as it cools, the salt will begin to shew itself in small threads.

Common nitre contains usually a considerable portion of sea salt, which in this process is separated, the sea salt remaining dissolved after greatest part of the nitre has crystallised. The crystals which shoot after the first evaporation, are large, regular, and pure: but when the remaining liquor is further evaporated, and this repeated a second or third time, the crystals prove at length small, imperfect,

this medicine is now prepared, as will be seen hereafter.

The magnesia alba differs from calcareous earths, in having a less powerful attraction for fixed air, and in not becoming caustic by calcination.

SAL AMMONIACUS PURIFICATUS.

Purified sal ammoniac.

This salt is purified by solution in water, filtration, and crystallisation, after the manner above directed for nitre.

The impurities of sal ammoniac are commonly such as will not dissolve in water: and hence the purification is effected by the solution and filtration. The very last crystals seldom betray an admixture of any other salt.

ZINCUM VITRIOLATUM PURIFICATUM; *

formerly

VITRIOLUM ALBUM PURIFICATUM.

Purified vitriolated zinc.

Lond.

Take of

White vitriol, one pound;

Vitriolic acid, one dram;

Boiling distilled water, three pints;

Water, as much as is sufficient.

Boil them together till the vitriol is dissolved; then filter the liquor, and after due evaporation set it by in a cold place to crystallise.

Here the intention is not to separate the ochery matter of the vitriol, but to prevent its separating and colouring the crystals. This is effectually answered by the addition of the acid, by which it is kept dissolved.

White vitriol, or vitriolated zinc, contains sometimes a slight impregnation of copper, and more of a ferruginous matter; it therefore wants some depuration, for which

purpose the vitriolic acid is added; but this does not seem the best method for answering the intended purpose; for if the vitriolic acid be added the iron or copper will be more likely to be united to it, and so crystallise together with the vitriolated zinc; whereas a small addition of zinc would precipitate the other metals, by depriving them of their acid, and the vitriolated zinc, would thus become perfectly pure. This is one of the quickest in operation of those emetics which are esteemed safe, in doses, to adults, from fifteen grains to a scruple, or half a dram.—Internally given in smaller doses, we may obtain all the tonic power of zinc, and indeed some think it preferable in every case to the Calx of Zinc.—See VITRIOLUM ALBUM, Materia Medica.

ALUMINIS PURIFICATIO.

PURIFICATION OF ALUM.

Lond.

Take of

Alum, one pound;

Chalk, one dram;

Distilled water, two pints.

Boil a little while, strain, and set the liquor aside to crystallise.

The alum which we have from the alum works in England is sufficiently pure for any medicinal purposes; however in this process the chalk perfectly abstracts any superabundant acid of the alum, and precipitates any metallic or other foreign matter, with which it may be combined. Thus purified, it seems to be more soluble in water than before.

ALUMEN USTUM.

Burnt alum.

Lond.

Let alum be calcined in an iron or earthen vessel, so long as it bubbles and swells up.

The bubbling or blistering proceeds from the phlegm retained in the crystals; after that is expelled,

the salt cannot be made liquid by any degree of fire. Alum is composed of vitriolic acid and an earth: and it is remarkable, that combinations of that acid with all earths, with most metals, and even with vegetable fixt alkalies, are unfusible.

The alum, thus deprived of its phlegm, proves considerably stronger, and more acrid, inasmuch as to be sometimes employed for consuming fungous flesh. It is said to have the inconvenience of leaving a hardness upon the part.

For the medical properties of these two, see ALUMEN, *Materia Medica*.

FERRUM VITRIOLATUM EXSICCATUM;

vulgo

VITRIOLUM CALCINATUM.

Vitrol of iron dried.

Edinb.

Take vitrol of iron, any quantity you chuse.

Let it be calcined in an unglazed earthen vessel with a moderate fire till it becomes white and very dry. But the matter must be kept continually stirring, to prevent its sticking to the vessel, and acquiring a stony hardness. If this be urged with a more vehement fire, it passes into a deep red substance, called colcothar of vitriol.

This method is sufficiently troublesome: for, unless the heat be very gentle, and the matter spread very thin over the bottom of a broad shallow vessel, it is almost impossible to avoid melting it, which makes it adhere to the sides of the pan, and renders the previous pulverisation an useless labour.

The method usually practised by the chemists is, to place a deep earthen pan, with some vitriol in it, upon a gentle fire; the vitriol soon liquefies, boils up, and by de-

grees incrustates to the sides of the vessel. Some more vitriol is then thrown in and suffered to incrustate in the same manner, and this procedure repeated till the pan is nearly full of the concreted matter, which proves of a whitish colour, except on the outside next the pan (which must be broken, to take it out) where it appears yellowish or reddish, according to the continuance and degree of fire. If the vitriol be desired still further dephegmated, this may be commodiously effected, by reducing the mass into a gross powder (which will now no longer melt) and then calcining it over a strong fire, in a shallow iron pan, till it has gained the degree of dryness required, which may be known from its colour. The principal use of calcined vitriol is for the distillation of the spirit of vitriol. If employed for this purpose uncalcined, it would melt in the distilling vessel, and, running into a lump, scarce give out any spirit; and the little obtained would be very weak.

KALI VITRIOLATUM;

formerly

TARTARUM VITRIOLATUM.

Vitriolated kali.

Lond.

Take of the

Salt which remains after the distillation of the nitrous acid, two pounds;

Distilled water, two gallons.

Expel the superfluous acid, by exposing the salt to a strong fire, in an open vessel; then boil it a little while in the water; strain and set the liquor aside to crystallise.

LIXIVA VITRIOLATA;

vulgo

TARTARUM VITRIOLATUM.

Vitriolated lixiva.

Edinb.

Take of vitriolic acid diluted with

six times its quantity of water, as much as you chuse.

Put it into a capacious glass vessel, and drop into it gradually of purified fixed vegetable alkali, dissolved with six times its quantity of water, as much as is sufficient to render the acid perfectly neutral—The effervescence having ceased, filter the liquor, and after proper evaporation, set it aside to crystallise, not in a cold but moderately warm place.

During the effervescence the operator ought to take care that the vapour then separating does not strike his nostrils; for fixed air, when applied to the olfactory nerves is highly deleterious to life.

The mode of its being prepared by the Edinburgh dispensatory, is an elegant, and one of the least troublesome ways of preparing this salt. The Edinburgh college, in former editions, ordered the acid liquor to be dropt into the alkaline. By the converse procedure, now received, it is obviously more easy to secure against a redundance of acidity: for the greater certainty in this point, it may be expedient, as in the foregoing process, to drop in a little more of the alkaline ley than the cessation of the effervescence seems to require.

Vitriolated tartar, in small doses, as a scruple or half a dram, is an useful aperient; in larger ones, as four or five drams, a mild cathartic, which does not pass off so hastily as the *natron vitriolatum* or *magnesia vitriolata*.

The vitriolated tatar is one of those neutral salts most difficult of solution, very little of it being taken up in cold water, notwithstanding both the acid, and alkali of which it is composed so readily unite with that menstruum, and so strongly attract moisture, even from

the air. From the difficulty of its solubility, it is esteemed one of the most perfect neutral salts, which performs it most completely, and extends its action beyond the *primæ viæ*.

The wholesale dealers in medicines have commonly substituted for it an article otherwise almost useless in their shops, the residuum of Glauber's spirit of nitre. This may be looked upon as a venial fraud, if the spirit has been prepared as formerly directed, and the residuum dissolved and crystallised; but it is a very dangerous one, if the vitriolic acid has been used in an over proportion, and the caput mortuum employed without crystallisation; the salt in this case, instead of a mild neutral one of a moderately bitter taste, proving highly acid. The purchaser ought therefore to insist upon the salt's being in a crystalline form. The crystals, when perfect, are oblong, with six flat sides, and terminated at each end by a six-sided pyramid. Some appear composed of two pyramids joined together by the bases, and many, in the most perfect crystallisations I have seen, are very irregular. They decrepitate in the fire, somewhat like those of sea salt, for which they have sometimes been mistaken.

LIXIVA VITRIOLATA SULPHUREA;

vulgo

SAL POLYCHRESTUS.

Vitriolated sulphurous lixiva.

Take of

Nitre, reduced to powder;

Flowers of sulphur, equal weights.

Let them be well mixed and thrown gradually into a red-hot crucible.

As soon as the deflagration has ceased, let the salt cool, and be kept in a glass vessel well stoppered.

This salt may be made more pure

if it is dissolved in warm water, filtered, and reduced into crystals.

Both these preparations are formed by the union of the prepared kali with the vitriolic acid. The first is the most simple process, because it is formed by the power of simple elective attraction, but in the last double elective attraction takes place, for here both the nitre and sulphur are decomposed, the acid of the nitre, and the inflammable principle of the sulphur detonate together: while the acid of the sulphur combines with the alkaline basis of the sulphur. The two neutral salts are therefore exactly the same.

NATRON VITRIOLATUM;

Lond.

SODA VITRIOLATA;

Edinb.

VITRIOLATED NATRON, or SODA;

formerly

SAL CATHARTICUS GLAUBERI.

Dissolve in warm water the mass which remains after the distillation of spirit of sea salt: filter the solution, and crystallise the salt. Expel the superfluous acid, by exposing the salt to a strong fire, in an open vessel, then boil it a little in the water, strain the solution, and set it aside to crystallise.

Lond.

There is no great danger of the crystals proving too sharp, even when the spirit of salt is made with the largest proportion of oil of vitriol directed under that process. The liquor which remains after the crystallisation is indeed very acid; and with regard to this preparation, it is convenient it should be so; for otherwise, the crystals will be very small, and likewise in a little quantity. Where a sufficient proportion of oil of vitriol has not been employed in the distillation of the spirit, it is necessary to add some

to the liquor, in order to promote the crystallisation of the salt.

The title formerly given to this salt expresses its medical virtues. Taken from half an ounce to an ounce, or more, it proves a *mild and useful purgative*; and in smaller doses, largely diluted, a *serviceable aperient and diuretic*. The shops frequently substitute for it the *sal catharticus amarus*, which is nearly of the same quality, but somewhat more unpleasant, and, as is said, less mild in operation. They are very easily distinguishable from each other, by the effect of alkaline salts upon solutions of them. The solution of Glauber's salt suffers no visible change from this addition, its own basis being a true fixt alkali: but the solution of the *sal catharticus amarus* grows instantly white and turbid, its basis, which is an earth, being extricated copiously by the alkaline salt; as in the making *magnesia alba*.

SODA PHOSPHORATA.

Phosphorated soda, or mineral fixed alkali.

Edinb.

Take of

Bones burnt to whiteness, and powdered, ten pounds;
Vitriolic acid, six pounds;
Water, nine pounds.

Mix the powder in an earthen vessel very well with the vitriolic acid; afterwards add the water, and mix them thoroughly together; then keep the vessel in the vapour of boiling water for three days; after which time, distil the matter with another additional nine pounds of boiling water, and strain it forcibly through linen, pouring upon it gradually hot water, till all the acid shall be washed off; set by the strained liquor, that the fæces may subside; from which pour it off, then reduce it by evaporation to

nine pounds, which set by, that the fæces may again subside. Evaporate the liquor, poured a second time from the fæces, to seven pounds, which being a third time cleared from the fæces, strain. Thus at last a sufficiently pure phosphoric acid will be procured, to which being heated in an earthen vessel, add purified soda dissolved in warm water until the effervescence shall cease. Then strain the mixture, and set it aside, that crystals may be formed, these being removed to the liquor if it should be necessary, add a little soda that the acid may be perfectly neutralised, and by evaporation, dissolve it to form crystals again so long as any can be produced.

These crystals are to be kept in a vessel well closed.

MAGNESIA ALBA.

White magnesia.

Lond.

Take

Vitriolated magnesia;

Prepared kali, of each two pounds;

Distilled water boiling, twenty pints.

Let these saline substances be dissolved separately, each in ten pints of water, and filter through paper, then mix them. Boil the liquor a little while and strain it while hot through linen, upon which will remain the WHITE MAGNESIA; then pour upon it distilled water sufficient to dissolve and wash out the vitriolated kali.

The ablutions should be made with pure soft water, better if it is distilled: hard water is altogether inadmissible, as the hardness is generally owing to an imperfect nitrous selenite, whose base is capable of being disengaged by magnesia united with fixed air.

This powder appears to be the

same species of earth with that obtained from the mother-ley of nitre which was for several years a celebrated secret in the hands of some particular persons abroad. HOFFMAN, who describes the preparation of the nitrous magnesia, gives it the character of an useful *anti acid*, a *safe and inoffensive laxative* in doses of a dram or two, and a *diaphoretic and diuretic* when given in smaller doses of fifteen or twenty grains. It is particularly serviceable in *heart-burns*, and for *preventing or removing the many disorders which children are so frequently thrown into from a redundancy of acid humours in the first passages*. It is preferred, on account of its laxative quality, to the common absorbents, which (unless gentle purgatives are given occasionally to carry them off) are apt to lodge in the body, and occasion a costiveness very detrimental to infants.

Magnesia alba, when prepared in perfection, is a white and very subtile earth, perfectly void of smell or taste, of the class of those which dissolve in acids. It dissolves freely, even in the vitriolic acid; which in the common way of making solutions, takes up only an inconsiderable portion of other earths. Combined with this acid, it forms a bitter salt, very easily soluble in water, while the common absorbents form with the same acid almost insipid concretes, very difficult of solution. Solutions of magnesia in all acids are *bitter and purgative*; while those of the other earths are more or less *austere and astringent*. A large dose of the magnesia, if the stomach contains no acid to dissolve it, does not purge or produce any sensible effect. A moderate one, *if an acid be lodged there, or if acid liquors be taken after it, procures several stools*; whereas the common absorbents, in the same circumstances, instead

of loosening, bind the belly. It is obvious, therefore, that magnesia is specifically different from the other earths, and that it is applicable to useful purposes in medicine.

MAGNESIA USTA.

Calcined Magnesia.

Lond.

Take of white magnesia, four ounces; expose it to a strong heat for two hours, and when cold put it into a glass vessel closely stopped. The formula of the Edinburgh dispensatory is the same, except the quantity of magnesia, which is not specified.

By this process the magnesia is deprived of its fixed air, which constitutes more than half its weight, according to Dr. Black $\frac{7}{12}$, and remains equally mild with the aerated magnesia. When at the end of the operation it exhibits a luminous or phosphorescent property, it is a pretty certain criterion that it is deprived of air. If sufficiently burnt it does not effervesce with acids, and consequently is more eligible to complaints in the primæ viæ where there is a redundant acidity attended with flatulency, because it contains more of the real earth of magnesia in a given quantity, and neutralizes the acid without that extrication of air which is often a troublesome consequence in employing in these complaints aerated magnesia. It purges briskly in doses of from one dram to two. It is said, that, similar to the mild calcareous earths, it promotes and encreases putrefaction, the same as has been observed with respect to the Epsom and some other salts, which have magnesia for their bases.

KALI ACETATUM.

Lond.

LIXIVA ACETATA.

Edinb.

formerly

SAL DIURETICUS.

Lond.

TARTARUM REGENERATUM.

Edinb.

Acetated kali, or lixiva.

Lond. and Edinb.

Take of

Prepared kali, one pound.

Boil it, with a very gentle heat, in four or five times its weight of distilled vinegar. When the fermentation ceases, add, at different times, more distilled vinegar; one portion being almost evaporated, fresh vinegar will no longer raise any fermentation; which generally happens by the time that twenty pounds of distilled vinegar have been used. Then slowly exhale to dryness.

Melt the remaining impure salt for a little time, over a gentle fire; then dissolve it in water, and filter the solution through paper. If the melting has been duly performed, the filtered liquor will be limpid and colourless; if otherwise, it will be of a brown colour.

Evaporate the limpid solution, with a gentle heat, in a shallow glass vessel, occasionally stirring the salt as it dries, that its moisture may be the sooner exhaled. Afterwards keep it for use in a vessel very closely stopp'd; for it will liquefy by the air. This salt ought to be of perfect whiteness; and should totally dissolve both in water and spirit of wine, without leaving any fæces. If the salt, though ever so white, deposits any fæces in spirit of wine; the whole of it must be dissolved in that spirit, the solution filtered, and exsiccated again.

If the common alkalies be made use of for this process, they should be previously purified, by solution and crystallisation, from the neu-

tral salt which they generally contain. The distilled vinegar must be perfectly free from any empyreumatic taint. It is not necessary to dephlegmate it, or throw away the first runnings in the distillation, since these contain a portion of the acid (the part here wanted) as well as the phlegm.

It is difficult to hit the point of saturation betwixt the acetous acid and the alkaline salt. After about fourteen parts of strong distilled vinegar have been gradually poured upon one of the fixed salt, the addition of a little more of the acid will not occasion any further effervescence in the cold: but, if the mixture be now strongly stirred and well heated, the effervescence will appear afresh; upon which some more vinegar is to be added, till it again ceases. The saturation is not as yet complete; for, upon exhaling the aqueous parts, the remaining salt still effervesces with fresh vinegar. When so much of the acid has now been added, that no marks of fermentation any longer appear, a little more of the vinegar may be poured in before you proceed to the last evaporation. By these means, the saturation of the alkali will be secured, whilst, if the acid prevail, the superfluous quantity of it will exhale.

The salt thus prepared is of a dark brown colour, a peculiar, not ungrateful odour, a penetrating, saponaceous, saline taste, in no wise alkaline or acid. Its brown colour, and saponaceous quality, proceed from the oily parts of the vinegar; the depuration of the salt from this oil, is not in the foregoing process insisted on. In the London Pharmacopœia, the salt is ordered to be purified to perfect whiteness.

The purification of this salt is not a little troublesome. The operator must be particularly careful, in melting it, not to use too great

a heat, or to keep it liquefied too long; a little should be occasionally taken out, and put into water: and as soon as it begins to part freely with its black colour, the whole is to be removed from the fire. In the last drying, the heat must not be so great as to melt it; otherwise it will not prove totally soluble. If the solution in spirit of wine be exsiccated, and the remaining salt liquefied with a very soft fire, it gains the leafy appearance which procured it the name *terra foliata*.

In the fourth volume of the Memoirs of the Correspondents of the French Academy, Mr. Cadet has given a method of making the salt white at the first evaporation, without the trouble of any further purification. He observes, that the brown colour depends upon the oily matter of the vinegar being burnt by the heat commonly employed in the evaporation; and his improvement consists in diminishing the heat at the time that this burning is liable to happen. The process he recommends is as follows.

Dissolve a pound of salt of tartar in a sufficient quantity of cold water, filter the solution, and add by degrees as much distilled vinegar as will saturate it, or a little more. Set the liquor to evaporate in a stone-ware vessel, in a gentle heat not so strong as to make it boil: when a pellicle appears on the surface, the rest of the process must be finished in a water-bath. The liquor acquires by degrees an oily consistence, and a pretty deep brown colour, but the pellicle or scum on the top looks whitish, and when taken off and cooled, appears a congeries of little brilliant silver-like plates. The matter is to be kept continually stirring, till it is wholly changed

into this white flaky matter, the complete drying of which is most conveniently effected in a warm oven.

We shall not take upon us to determine whether the pure or impure salt be preferable as medicines; observing, only, that the latter is more of a saponaceous nature, the former more acrid, though somewhat more agreeable to the stomach. Mr. Cadet reckons the salt prepared in his method superior both to the brown and white sorts made in the common way, as possessing both the oily quality of the one, and the agreeableness of the other, and as being always uniform, or of the same power; whereas the others are liable to vary considerably, according to the degree of heat employed in the evaporation. They are all medicines of great efficacy, and may be dosed and managed as to prove either *mildly cathartic*, or *powerfully diuretic*: few of the saline deobstruents come up to them in virtue. The dose is from half a scruple to a dram or two. A bare mixture of alkaline salt and vinegar without exsiccation, is not perhaps much inferior as a medicine to the more elaborate salt. I have known two drams of the alkali, saturated with vinegar, occasion ten or twelve stools, in *hydropic cases*, and a *plentiful discharge of urine*, without any inconvenience.

AQUA AMMONIÆ ACETATÆ;

formerly

SPIRITUS MINDERERI.

*Water of acetated ammonia,
Lond.*

Take of

Ammonia prepared, two ounces.
Distilled vinegar, four pints, or
as much as will perfectly saturate the ammonia.

Edinb.

Take any quantity of prepared sal ammonia, and gradually pour upon it as much distilled vinegar, as will perfectly saturate the ammonia.

This is an excellent aperient saline liquor. Taken warm in bed, it proves *commonly a powerful diaphoretic*, or *sudorific*; and, as it operates without heat, it has place in febrile and inflammatory disorders, where medicines of the warm kind, if they fail of procuring sweat, aggravate the distemper. Its action may likewise be determined to the kidneys, by walking about in a cool air. The common dose is half an ounce, either by itself, or along with other medicines adapted to the intention. Its strength is not a little precarious, depending in great measure on that of the vinegar; an inconvenience which cannot easily be obviated, for the saline matter is not reducible to the form of a concrete salt.

SECT. VII.

ANOMALOUS SALTS.

CRYSTALLI TARTARI.

Crystals of tartar.

LET powdered white tartar be boiled in twenty times its quantity of water, till perfectly

dissolved; and the solution, whilst it continues hot, passed through filtering paper or a woollen cloth, and received in a wooden vessel; then expose it

for a night or longer to the cold air, that crystals may form themselves, and shoot to the sides of the vessel; the water being now poured off, the crystals are to be collected and dried for use.

The filtration of the solution of tartar through paper succeeds very slowly, and, unless managed with a good deal of address, not at all: for, as soon as the boiling liquor begins to grow sensibly less hot, it deposits much of the tartar all over the surface of the paper, which hinders the remainder from passing through. Zwelfer, in his animadversions on this process in the Augustan Pharmacopœia, directs the solution to be clarified with whites of eggs, and strained only through a linen cloth; he likewise judiciously orders the vessel to be close covered, and the crystallisation performed in a warm place: for, if the solution be suffered to cool very fast, it is vain to expect any appearance of crystals; the tartar will inevitably be precipitated to the bottom of the vessel in the form of sand. And indeed, the business of refining and crystallising tartar is so very troublesome, and requires so large an apparatus, that scarce any of the apothecaries, or even of the trading chemists, are at the trouble of it; but either import it ready refined from Holland, or purchase it from some people here who make it their sole business.

CRYSTALS of tartar, or what is called CREAM of TARTAR, in the succeeding process, both of them possess similar medical effects, for which see TARTARUM, in the Materia Medica.

CREMOR TARTARI.

Cream of tartar.

Take any quantity of solution of tartar, made as in the foregoing process, and passed through a filter. Boil it over the fire, till a thick cuticle appear on the

surface, which is to be taken off with a wooden skimmer bored full of holes. Continue the boiling till a fresh cuticle arise, which is to be taken off as the foregoing, and the operation repeated till the whole quantity of liquor be thus consumed. Afterwards dry all the cuticles together in the sun.

This process seems inserted only to retain a name long familiar to the shops; for the preparation itself in no respect differs from crystals of tartar reduced to powder. Indeed the purchaser ought always to prefer the crystals; for the powder is often sophisticated with saline substances of another kind.

Both the crystals and cream are brought to us from abroad; they are not different in quality from one another: and that good white tartar, unrefined, is not inferior to either of them.

KALI TARTARISATUM;

formerly

TARTARUM SOLUBILE.

Tartarised kali.

Lond.

Take of

Prepared kali, one pound;
Crystals of tartar, three pounds;
Boiling distilled water, three gallons.

To the kali, dissolved in water, add gradually the crystals of tartar powdered; filter the liquor, when cold; and after due evaporation set it by to crystallise.

LIXIVA TARTARISATA;

vulgo

TARTARUM SOLUBILE.

Tartarised lixiva.

Edinb.

Take of

Purified fixt vegetable alkali,
one pound;
Water, fifteen pounds.

The alkaline salt being dissolved in the boiling water, add gradually the crystals of tartar powdered,

G g

so long as any effervescence is raised, which will commonly cease before a third part of the crystals of tartar shall be consumed; then strain the liquor, when cold, through paper, and, after proper evaporation, set it by to crystallise.

Common white tartar is perhaps preferable for this operation to the crystals usually met with. Its impurities can here be no objection; since it will be sufficiently depurated by the subsequent filtration.

The preparation of this medicine by either of the above methods is very easy; though some chemists have rendered it sufficiently troublesome, by a nicety that is not at all wanted. They insist upon hitting the very exact point of saturation betwixt the alkaline salt and the acid of the tartar; and caution the operator to be extremely careful, when he comes near this mark, lest, by imprudently adding too large a portion of either, he render the salt too acid, or too alkaline. If the liquor be suffered to cool a little before it is committed to the filter, and then properly exhaled and crystallised, no error of this kind can happen, though the saturation should not be very exactly hit: for, since crystals of tartar are very difficultly soluble even in boiling water, and when dissolved therein, concrete again upon the liquor's growing cold; if any more of them has been employed than is taken up by the alkali, this superfluous quantity will be left upon the filter: and, on the other hand, if too much of the alkali has been made use of, it will remain uncrystallised. The crystallisation of this salt indeed cannot be effected without a good deal of trouble: it is therefore most convenient to let the acid salt prevail at first, to

separate the superfluous quantity, by suffering the liquor to cool a little before filtration, and then proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral salt required. The most proper vessel for this purpose is a stone-ware one; iron discolours the salt.

Soluble tartar, in doses of a scruple, half a dram, or a dram, is a mild cooling aperient: two or three drams commonly loosen the belly; and an ounce proves pretty strongly purgative. Malouin says it is equal in purgative virtue to the cathartic salt of Glauber. It is an useful addition to the purgatives of the resinous kind, as it promotes their operation, and at the same time tends to correct their griping quality. But it must never be given in conjunction with any acid, such as tamarinds, &c. for all acids decompose it; absording its alkaline salt, and precipitating the tartar.

NATRON TARTARISATUM;

formerly
TARTARISED NATRON.
Lond.

Take of

Natron, twenty ounces;
Crystals of tartar powdered, two pounds;
Distilled water boiling, ten pints.

Proceed as in making the kali tartarifatum.

The Edinburgh Dispensatory orders this composition to be formed of soda and cream of tartar, in the same manner as the Lixiva Tartarifata.

This is a species of soluble tartar, made with the mineral alkali or basis of sea-salt, called *natron*, or *soda*. It crystallises far more easily than the preceding preparation, and does not, like it, grow moist in the air. It is also confi-

derably *less purgative*, but is equally decomposed by acids. It is given from one ounce to one ounce and an half as a *mild purgative*.

The London Pharmacopœia directs rather more NATRON to be employed than is necessary; for if the crystals of tartar have not the superabundant acid completely abstracted so as to be brought into a state of tartarised kali, a triple salt will be produced. Upon evaporating the remaining liquor, the superfluous natron may be recovered; and if we proceed in the evaporation afterwards, we may procure the tartarised natron.

SAL ESSENTIALE ACETOSÆ.

Essential salt of sorrel.

Take any quantity of the expressed juice of the leaves of wood sorrel, let it boil gently that the feculent matter may be separated; then strain it till it be clear; and after this boil it on a moderate fire to the consistence of a syrup. Put it into long-necked glass vessels, and place it in a cold situation, that it may crystallise. Let these crystals be dissolved in water; and again formed into purer ones.

After the same manner, essential salts are obtained from all *acid, austere, astringent, and bitterish plants* that contain but a small quantity of oil.

Herbs of a dry nature are to be moistened, in the bruising, with a little water, that the juice may be the more easily pressed out.

In order to make the subject yield its juice readily, it should be chopt to pieces, and well bruised in a marble mortar, before it is committed to the press. The magma which remains in the bag, still containing no inconsiderable quantity of saline matter, may be advantageously boiled in water,

and the decoction added to the expressed juice. The whole may be afterwards depurated together, either by the method before directed, or by running the liquor several times through a linen cloth. In some cases, the addition of a considerable portion of water is necessary; that the juice, thus diluted, may part the more freely from its fæculencies; on the separation of which, the success of the process in great measure depends.

The evaporation should be performed either in shallow glass basins, or in such earthen ones as are of a compact close texture; such are those usually called stoneware. The common earthen vessels are subject to have their glazing corroded, and are so extremely porous, as readily to imbibe and retain a good quantity of the liquor. Metallic vessels are particularly apt to be corroded by these acid kinds of juices.

These juices are so viscid, and abound so much with heterogeneous matter, of a quite different nature from any thing saline, that a pellicle, or pure saline incrustation upon the surface, is in vain expected. Boerhaave, therefore, and the more expert writers in pharmaceutical chemistry, with great judgment, direct the evaporation of the superfluous moisture to be continued until the matter has acquired the consistence of cream. If it be now suffered to stand for an hour or two in a warm place, it will, notwithstanding the former depurations, deposit a fresh sediment, from which it should be warily decanted, before it is put into the vessel in which it is designed to be crystallised.

Some recommend an unglazed earthen vessel, as preferable for this purpose to a glass one; the smoothness of the latter being supe-

posed to hinder the salt from sticking thereto; whilst the juice, easily insinuating itself into the pores of the former, has a great advantage of shooting its saline spicula to the sides. Others slightly incrustate the sides and bottom of whatever vessel they employ, with a certain mineral salt, which greatly disposes the juice to crystallise, to which of itself it is very averse: but this addition is, with regard to its medical virtue, quite different from the salt here intended.

The liquor which remains after the crystallisation, may be depurated by a gentle colature, and after due inspissation set to shoot again; when a further yield of crystals will be obtained.

The process for obtaining this salt is very tedious, inasmuch as scarce to be completed in less than seven or eight months; and the quantity of salt which the juices afford, is extremely small. Hence it is hardly ever made or expected in the shops. It may be somewhat sooner separated from the mucilaginous and other fæculencies by clarification with whites of eggs, and by adding pure white clay.

The virtues of the essential salts have not been sufficiently determined from experience. Thus much, however, is certain, that they do not, as has been supposed, possess the virtues of the subjects entire, excepting only the acids and sweets. The others seem to be, almost all of them, nearly similar, from whatever plant they were obtained. In watery extracts of wormwood, carduus, chamomile, and many other vegetables, kept for some time in a lost state, I have often observed fine saline efflorescences on the surface, which had all nearly the same taste, somewhat of the nitrous kind. They are supposed by some to be at bottom

no more than an impure species of volatile nitre (that is, a salt composed of the nitrous acid and ammonia). Those which were examined by the chemists of the French academy, deflagrated in the fire, and, being triturated with fixt alkalies, exhaled an urinous odour; plain marks of their containing those two ingredients.

SACCHARUM LACTIS.

Sugar of milk.

Take whey of milk, prepared by rennet. Let it be boiled over a moderate fire to the consistence of a syrup, then put it in a cold place that the crystals may be formed. Let the fluid which remains be again managed in the same manner, and let the crystals formed be washed with cold water.

This preparation has been greatly celebrated in disorders of the breast, but is far from answering what has been expected from it. It has little sweetness, and is difficult of solution in water. A saline substance, much better deserving the name of sugar, may be obtained by evaporating new milk, particularly that of the ass, to dryness, digesting the dry matter in water till the water has extracted its soluble parts, and then inspissating the filtered liquor. This preparation is of great sweetness, though neither white nor crystalline: nor is it perhaps in the pure crystallisable parts of milk that its medicinal virtues lie; and little dependence is put upon it as a medicine.

FLORES BENZOES.

Lond.

ACIDUM BENZOICUM;

Edinb.

formerly

FLORES BENZOINI.

Flowers of benzoin.

Lond.

Put one pound of powdered ben-

zoiné into an earthen pot placed in sand; and, with a slow fire, sublime the flowers into a conical paper cap fitted to the pot.

If the flowers have any yellow tinge, mix them with white clay, and sublime again.

Put any quantity of powdered benzoine into an earthen pot; under which, after adapting a large paper cap of a conical figure to the brim, place a slow fire that the flowers may sublime. If the flowers be impregnated with the oil, let them be purified by solution in warm water, and crystallisation.

Benzoine, exposed in a retort to a gentle fire, melts, and sends up into the neck white, shining, crystalline flowers, which are followed by an oily substance. On raising the heat a little (a recipient being applied to the neck of the retort) a thin yellowish oil comes over, intermingled with an acid liquor, and afterwards a thick butyraceous substance; this last, liquefied in boiling water, gives out to it a considerable quantity of saline matter (separable by filtration and proper exhalation) which appears in all respects similar to the flowers.

It appears therefore, that the whole quantity of flowers which benzoine is capable of yielding, cannot be obtained by the above processes, since a considerable portion arises after the time of their being discontinued: that greatest part of the flowers arises with a less degree of heat than what is necessary to elevate the oil: but that, if the operation be hastily conducted, or if the fire be not exceeding gentle, the oil will arise along with the flowers, and render them foul. Hence, in the way of trade, it is extremely difficult to prepare them of the requisite whiteness and purity; the

heat which becomes necessary, when large quantities of the benzoine are employed, being so great as to force over some of the oil along with them.

In order therefore to obtain these flowers in perfection, only a small quantity of benzoine should be put into the vessel at a time; and, that this may not be any impediment of the requisite dispatch, a number of shallow, flat-bottomed, earthen dishes may be employed, each fitted with another vessel inverted over it, or a paper cone. With these you may fill a sand-furnace; having fresh dishes charged in readiness to replace those in the furnace, as soon as the process shall appear finished in them: the residuum of the benzoine should be scraped out of each of the vessels, before a fresh parcel is put in.

The paper cone has been long disused by the chemists. MAUD of London, and several others, employed glass retorts, for the first sublimation, with the narrow parts of the tubes cut off, to which they joined receivers, not luted, scraping out the flowers frequently from the necks of the retorts, and using a degree of heat sufficient to keep the benzoine melted. For the rectification they employed stoneware bodies, with large glass blind-heads fitted to them without luting. The impure flowers, after being wrapped up in bibulous paper, and moderately pressed, were resublimed into the blind-heads, of a pearly whiteness. These flowers by some are considered as a peculiar acid, hence called *acidum benzoicum*.

These flowers, when made in perfection, have an agreeable taste and fragrant smell. They totally dissolve in spirit of wine; and likewise, by the assistance of heat, in water; but separate again from the

latter upon the liquor's growing cold, shooting into saline spicula, which unite together into irregular masses. By the mediation of sugar they remain suspended in cold water, and thus form an elegant balsamic syrup. Some have held them in great esteem, as *pectorat* and *sudorific*, in the dose of half a scruple or more. But the present practice rarely makes use of them, on account of the offensive oil, with which, as usually prepared, they are tainted, and from which a fresh sublimation from tobacco-pipe clay does not free them so effectually as might be wished. The observations before related point out a method of depurating them more perfectly, viz. by solution, filtration, and crystallisation.

SAL SEDATIVUS.

Salt of borax, called sedative salt.

Put eight ounces of powdered borax into a wide-necked retort; pour thereon three ounces of water; and then add three ounces of vitriolic acid. Place the retort in a proper furnace, adapt to it a receiver, and increase the fire till the vessel becomes red hot. The sedative salt will arise into the neck, in form of thin shining plates, which are to be swept out with a feather: and a little liquor will pass into the receiver. When the matter in the retort is grown cool, pour back upon it the distilled liquor, and sublime again. Repeat this process so long as the borax continues to yield any considerable quantity of saline flowers.

Or,

Dissolve the borax in a sufficient quantity of warm water, and add thereto the vitriolic acid. Evaporate this mixture, till thin plates begin to appear upon the

surface; then suffer the fire to decay, and let the vessel stand unmoved, till plenty of crystals are formed; which are to be well rinsed with cold water, and then dried for use.

In the preparation of this salt by sublimation, the fire must be expeditiously raised when the matter begins to grow dry; for it is only at this period that the salt sublimes. The sublimed salt itself, in a perfectly dry state, proves fixt in the fire. If moistened with water, and then exposed to a smart heat, part of it continues to rise, till the moisture is wholly exhaled; after which, nothing more can be forced up by heat, till the salt is again moistened. Hence the use of returning the distilled liquor, and repeating the sublimations. Lemery says, he found flowers continue to rise till the thirty-sixth sublimation; and that the quantity obtained by all these sublimations amounted to half an ounce and thirty-five grains, from two ounces of borax.

The part of the borax which does not sublime, appears to be the same (when the common refined borax of the shops is made use of) with the alkaline salt of the sea salt. The sedative salt, united with that alkali, recomposes borax again. The extrication of the sedative salt from the borax happens on the same principle as that of the marine acid from sea salt, viz. the vitriolic acid uniting with the alkali; and the residuum is in both cases the same, viz. *vitriolated natron* or *soda*. The sedative salt may be extricated also from borax by other acids, but most commodiously and effectually by the vitriolic.

The process by crystallisation is less troublesome than that by sublimation; but the salt proves generally less white, and is apt like-

wife to retain a part of the vitriolated natron, especially if the evaporation be too long protracted.

The sedative salt appears to the taste a neutral salt; but, examined with alkalies, has the properties of an acid, effervescing, uniting, and crystallising with them, and destroying their alkaline quality. It dissolves both in water and in spirit of wine: though not very readily in either. As to its virtues, it is supposed to be a *mild anodyne*, (whence its name), to *calm the heat of the blood in burning fevers*, to *prevent or remove delirious symptoms*, and *allay spasmodic affections*, whether hypochondriacal or hysterical, at least for a time. The dose is from two to eighteen grains, in any proper liquor.

SAL, ET OLEUM SUCCINI.

Salt, and oil of amber.

Lond.

Take of amber, two pounds.

Distil in a sand-bath with a fire gradually increased. There will come over an acid liquor, an oil, and a salt impregnated with the oil.

The oil, distilled again by itself, is divided into a thinner oil which arises; and a thicker part that remains behind, called balsam of amber.

The salt is to be boiled in the distilled spirit, or in common water, and set to crystallise; by these means it is freed from its adhering oil. The oftener this is repeated, the purer it will be.

Edinb.

Mix powdered white amber with an equal weight of clean sand, and put them into a glass retort, of which the mixture may fill one half; then adapt a large receiver, and distil in a sand-furnace, with a fire gradually increased. At first a watery liquor will come over, with some yellow oil; then more yellow oil,

along with salt; and afterwards, with a reddish or black coloured oil.

When the distillation is finished, empty the liquor out of the receiver; and separate the oil from the water: having collected together the salt which adheres to the sides and neck of the retort, dry it by gentle pressure between the folds of some spongy paper.

The oil may be separated from the spirit by filtration; that it may be freed from the adhering oil; afterwards it may be purified by solution in warm water, and crystallisation.

SAL SUCCINI PURIFICATUM.

Purified salt of amber.

Lond.

Take of

Salt of amber, half a pound;

Distilled water, one pint.

Boil the salt in the distilled water, and set the solution aside to crystallise.

OLEUM SUCCINI RECTIFICATUM.

Rectified oil of amber.

Lond.

Take oil of amber.

Distil three times.

Edinb.

Let oil of amber, to which six times the quantity of water is added, be distilled from a glass retort, until two thirds of the water shall have passed over into the receiver. Then let the rectified oil be separated from the water, and kept in vessels closely stoppered.

The acid liquor formerly called spirit, is a mere solution of a small portion of the salt, and inert impurities of the bitumen in phlegm.

In the distillation of amber, the fire must for some time be continued gentle, scarce exceeding the degree at which water boils, till the

aqueous phlegm and thin oil have arisen; after which it is to be slowly increased. If the fire were urged hastily, the amber would swell up, and rise in its whole substance into the receiver, without undergoing the required decomposition or separation of its parts. When sand or similar intermedia are mixed with it, it is less subject to this rarefaction, and the fire may be raised somewhat more expeditiously; though this little advantage is perhaps more than counterbalanced by the room which the sand takes up in the retort.

Our chemists generally leave the receiver unluted, that it may be occasionally removed as the salt rises and concretes in the neck of the retort, whence it is every now and then scraped out to prevent the oil from carrying it down into the receiver. When a gross thick oil begins to arise, and no more salt appears, the distillation is stopt, though it might, perhaps, be continued longer to advantage.

Mr. POTT informs us (in a curious dissertation on the salt of amber, published in the ninth volume of the *Memoirs of the Academy of Sciences of Berlin*) that the Prussian workmen, who prepare large quantities of the salt for exportation, from cuttings and small pieces of amber, perform the distillation without any intermedium, and in an open fire; that sweeping out the salt from the neck of the retort being found too troublesome, they suffer the oil to carry it down into the receiver, and afterwards separate it by means of bibulous paper, which imbibes the oil, and leaves the salt dry; which paper is afterwards squeezed and distilled: that they continue the distillation till all that can be forced over has arisen; with care only to catch the last thick oil in a separate receiver; and that from this they extract a

considerable quantity of salt, by shaking it in a strong vessel with three or four fresh portions of hot water, and evaporating and crystallising the filtered waters.

The salt, freed from as much of the oil as spongy paper will imbibe, retains so much as to appear of a dark brown colour. Mr. Pott says, the method he has found to succeed best, and with least loss, is, to dissolve the salt in hot water, and put into the paper, through which the solution is to be filtered, a little cotton slightly moistened with oil of amber: this, he says, detains a good deal of the oil of the salt, and the solution passes through the more pure. The liquor being evaporated with a very gentle fire, as that of a water-bath, and set to shoot, the first crystals prove transparent, with a slight yellowish tinge; but those which follow are brown, oily, and bitter, and are therefore to be further depurated in the same manner. The whole quantity of crystals amounts to about one-thirtieth of the weight of the crude amber employed. By sublimation from sea salt, the salt is more perfectly and more expeditiously purified. Mr. Pott objects to sublimation, that a part of the salt is decomposed by it, a coaly matter being left behind, even though the salt was previously purified by crystallisation. It may be presumed, however, that this coal proceeds rather from the burning of some remains of the oily matter, than from the decomposition of any part of the true salt.

PURE SALT OF AMBER has a penetrating, subastringent, acid taste. It dissolves, both in water and in rectified spirit; though not readily in either, and scarcely at all in the latter without the assistance of heat. Of cold water in summer, it requires for its solution about twen-

ty times its own weight; of boiling water only about twice its weight. Exposed in a glass vessel, to a heat a little greater than that of boiling water, it first melts, then rises in a white fume, and concretes again in the upper part of the glass, into fine white flakes, leaving, unless it was perfectly pure, a little coaly matter behind. It effervesces with alkalies both fixt and volatile, and forms with them neutral compounds, greatly resembling those composed of the same alkalies and vegetable acids. Mixed with acid liquors, it makes no sensible commotion. Ground with fixt alkaline salts, it does not exhale any urinous odour. By these characters, it is conceived, that salt may be readily distinguished from all the other matters that have been mixed with or vended for it. With regard to its virtue, it is accounted *aperient, diuretic*, and, on account of its retaining some portion of the oil, *antihysteric*. Boerhaave gives

it the character of *diureticorum et antihystericorum princeps*. Its great price, however, has prevented its coming much into use; and perhaps its real virtues are not equal to the opinion generally entertained of them.

The RECTIFIED OIL has a strong bituminous smell, and a pungent, acrid taste. Given in a dose of ten or twelve drops, it *heats, stimulates, and promotes the fluid secretions*. It is chiefly celebrated in *hysterical disorders*, and in *deficiencies of the uterine purgations*. Sometimes it is used externally, in liniments for *weak or paralytic limbs*, and *rheumatic pains*. This oil differs from all those of the vegetable kingdom, and agrees with the mineral petroleum, in not being soluble, either in its rectified or unrectified state, by spirit of wine, fixt alkaline lixivium, or volatile alkaline spirits; the oil, after long digestion or agitation, separating as freely as common oil does from water.

CHAPTER IX.

PREPARATIONS OF SULPHUR.

FLORES SULPHURIS.

Flowers of sulphur.

SUBLIME sulphur in proper vessels; and reduce the flowers, that concrete, into powder, either in a wooden mill, or in a marble mortar with a wooden pestle;

or

Put any quantity of yellow sulphur, grossly powdered, into an earthen cucurbit placed in a sand-furnace; and, having fitted on a glass blind-head, or inverted upon it another earthen cucurbit, begin the sublimation with a gentle heat, which may be afterwards increased. The flowers will rise into the uppermost part of the vessels, whence they are to be swept out, and carefully washed with very hot water.

This process is rarely attempted by the apothecaries, a large apparatus being necessary for performing it to advantage. Those who prepare the flowers of brimstone in quantity, use for the subliming vessel, a large iron pot, capable of holding two or three hundred weight. This communicates with an arched chamber, lined with glazed tiles, which serves for the recipient.

This preparation of sulphur makes no change in its qualities; only separating its impurities, and at the same time reducing it into a finer powder than it can easily be brought to by other means. At the bottom of the subliming vessel there remains a ponderous grey-coloured mass, composed of sand,

earth, stony, and sometimes metallic matters, with a small portion of sulphur that has escaped the subliming heat. This is usually broken in pieces, and vended in the shops under the name of **SULPHUR VIVUM**.

FLORES SULPHURIS LOTI.

*Washed flowers of sulphur.**Lond. and Edinb.*

Take of

Flowers of sulphur, one pound;
Distilled water, four pints.

Boil them for some time. Then, pouring off this water, let some cold water be added, and thoroughly wash the flowers; after which they are to be dried for use.

As the flowers of sulphur are generally sublimed into very capacious rooms, which contain a large quantity of air, or in vessels not perfectly close; some of those that arise at first, are apt to take fire, and thus are changed into a volatile acid vapour, which, mingling with the flowers that sublime afterwards, communicates to them a notable degree of acidity. In such case the ablution here directed is for the general use of the medicine absolutely necessary: for the flowers, thus tainted with acid, sometimes occasion gripes, and may, in other respects, be productive of effects different from those of pure sulphur. Besides, it is said, that **CRUDE SULPHUR** is generally combined with a portion of arsenic, from which it is not always totally freed by sublimation; as the arsenic, in a low degree of heat, will often be sublimed along with it.

The process, therefore, of boiling the flowers of sulphur in water, not only washes off the adherent vitriolic acid, but deprives them also of any arsenic which might be possibly mixed with them in sublimation. There are, however, some particular combinations, to which they are supposed to be better adapted when unwashed, as their union with mercury into æthiops mineral; and accordingly for that preparation the unwashed flowers are directed by the London college.

OLEUM SULPHURATUM.*formerly***BALSAMUM SULPHURIS
SIMPLEX.***Sulphurated oil.* *Lond.*

Boil flowers of sulphur, four ounces; sixteen ounces of oil olive, in a pot lightly covered, until they are united.

PETROLEUM SULPHURATUM;*formerly***BALSAMUM SULPHURIS
BARBADENSE,**

Is made in the same manner.

OLEUM SULPHURATUM.*vulgo***BALSAMUM SULPHURIS
CRASSUM.***Sulphurated oil.* *Edinb.*

Take of

Oil of olives, eight ounces;

Flowers of sulphur, one ounce.

Boil them together, in a sufficiently large iron vessel, over a gentle fire, keeping them continually stirring, till they are united.

Linseed oil more readily dissolves sulphur than oil olive, and the preparation made with it is reckoned somewhat less disagreeable. The vessel they are boiled in ought to be capable of holding at least three times the quantity of the ingredients. As soon as the oil begins to act upon the sulphur, which hap-

pens nearly at the point of ebullition, the mixture rarefies very much, so as, if not prudently removed from the fire, to run over into the furnace; and, as the matter is very susceptible of flame, dangerous consequences may ensue, especially if the quantity be large. The operator ought therefore to be upon his guard in the management of this process.

These preparations are more conveniently and safely made in a tall glass body, with the mouth at least an inch in diameter, than in the circulatory or close vessels in which they have commonly been directed to be prepared. For, when the sulphur and oil begin to act vehemently upon each other, they not only rarefy into a large volume, but likewise throw out impetuously great quantities of an elastic vapour, which, if the vessels be closed, or the orifices not sufficient to allow it a free exit, infallibly burst them. Hoffman relates a very remarkable history of the effects of an accident of this kind. In the vessel before recommended, the process may be completed without danger, in four or five hours, by duly managing the fire; which should be very gentle for some time, and afterwards increased so as to make the oil just bubble or boil, in which state it should be kept till all the sulphur appears to be taken up.

Essential oils employed as menstrua for sulphur, undergo a great alteration from the degree of heat necessary for enabling them to dissolve the sulphur; and hence the balsams have not near so much of their flavour as might be expected. It should therefore seem more eligible to add a proper quantity of the essential oil to the simple balsam; these readily incorporate by a gentle warmth, if the vessel be now and then shaken. Sixteen parts of essential oil, and six of

the oleum sulphuratum, compose a balsam more elegant than those formerly prescribed, as the *terebinthinate—anisated balsam of sulphur*, &c.; which are now rejected; for these retain so much of the flavour of the oil, as is in some measure sufficient to cover the taste of the sulphur, and render it supportable.

The balsams of sulphur have been strongly recommended in *coughs, consumptions, and other disorders of the breast and lungs*. But the reputation which they have had, in these cases, does not appear to have been built upon any fair trial, or experience of their virtues. They are manifestly *hot, acrimonious, and irritating*; and therefore should be used with the utmost caution. They have frequently been found to *injure the appetite, offend the stomach and viscera, parch the body, and occasion thirst and febrile heats*. The dose of the simple balsam is from ten to forty drops: those with essential oils are not given in above half these quantities. EXTERNALLY, they are employed for *cleansing and healing foul running ulcers*. Boerhaave conjectures, that their use in these cases gives occasion to the virtues ascribed to them when taken internally.

KALI SULPHURATUM;

formerly

HEPAR SULPHURIS.

Sulphurated Kali.

Lond.

Take of

Flowers of sulphur, one ounce;
Prepared kali, five ounces.

Melt the sulphur with a slow fire, and then mix the salt, constantly stirring, until they unite into a red mass.

It is much more convenient to melt the sulphur first by itself, and add the salt of tartar by degrees, as here directed; than to grind them together, and afterwards en-

deavour to melt them as ordered in former editions: for in this last case, the mixture will not flow sufficiently thin to be properly united by stirring; and the sulphur either takes fire, or sublimes in flowers, which probably has been the reason why so large a portion of it has been commonly directed. Even in the present method a considerable part of the sulphur will be dissipated; and if it were not, the hepar would not be of its due quality: for one part of sulphur requires two of the alkaline salt, to render it perfectly soluble in water, which this preparation ought to be.

The kali sulphuratum has a fetid smell, and a nauseous taste. Solutions of it in water, made with sugar into a syrup, have been recommended in the same intentions as the sulphurated oils above-mentioned: our Pharmacopœias nevertheless have deservedly rejected this syrup, as common practice has almost done the balsams. The sulphurated kali, digested in rectified spirit of wine, imparts a rich gold colour, a warm, and somewhat aromatic taste, and a peculiar, not ungrateful smell. A tincture of this kind is kept in the shops, under the name of another mineral.

The *sulphurated kali* has been by some strongly recommended to prevent the effects of mineral poisons; solutions of thin water have been prescribed in herpetic, and other cutaneous eruptions; it has been employed in large quantities, in baths, by some physicians in the psora, and used by way of lotion in tinea capitis.

SULPHUR PRÆCIPITATUM;

formerly

LAC SULPHURIS.

Precipitated sulphur.

Lond.

Take of

Sulphurated kali, six ounces;
Distilled water, one pound and an half;

Diluted vitriolic acid, as much as is sufficient.

Boil the sulphurated kali in distilled water till it is dissolved. Filter the liquor through paper, and then add the diluted vitriolic acid. Wash the precipitated powder with fresh portions of water, until it becomes inspid.

The method of preparing this lac, as it is called, with sulphurated kali, is the most expeditious, and least troublesome, provided the kali sulphuratum be well made.

This preparation is not so white as that of the last Dispensatory, which was made by boiling the sulphur with quick lime, and precipitating with vitriolic acid, but it is thought by some to be more purgative. It is chiefly given as a mild purgative, and possesses the powers attributed to pure sulphur. See SULPHUR. Materia Medica.

Pure lac sulphuris is not different in quality from pure sulphur itself; to which it is preferred, in unguents, &c. only on account of its colour. The whiteness does not proceed from the sulphur's having lost any of its parts in the operation, or from any new matter superadded: for, if common sulphur be ground with alkaline salts, and set to sublime, it arises of a like white colour, the whole quantity of alkali remaining unchanged; and, if the lac be melted with a gentle fire, it returns into yellow sulphur again.

It may be observed, that the name *lac sulphuris*, or milk of sulphur, applied among us to the precipitate, is by the French writers confined to the white liquor before the precipitate has fallen from it.

TINCTURA SULPHURIS VOLATILIS.

Volatile tincture of sulphur.

Flowers of sulphur, six ounces;
Sal ammoniac, one pound;
Quicklime, a pound and a half.

Sprinkle some water on the lime, and when slaked and fallen into powder, grind it first with the sulphur, and afterwards with the sal ammoniac, in small quantities at a time: then distil the mixture in a retort, with a fire gradually increased. The distilled liquor is to be kept, in a bottle close stoppt, for use.

This liquor has a strong offensive smell, somewhat similar to that which arises in the precipitation of *lac sulphuris*. The vapour in both cases spreads to a considerable distance, changes silver or copper utensils to a brown or blackish colour, and produces disagreeable alterations in many medicinal preparations. To this circumstance therefore due regard ought to be had in the performance of that process, and in the keeping of this tincture. If a piece of paper, written upon with a saturated solution of lead in vegetable acids, and gently dried, be placed in the middle of a quire of paper, or of a pretty thick book, and brought near the unstopt orifice of the bottle containing the tincture, the vapour will quickly reach it, and change the colourless writing to a legible black.

Hoffman has a great opinion of the virtues of this preparation. He says, a mixture of one part of the tincture with three parts of spirit of wine, in a dose of thirty or forty drops, *proves a most powerful diaphoretic*; and that a liquor composed of this and camphor, *takes off the pain of the gout*, by bathing the feet with it. This tincture may be a powerful medicine, but it is certainly a very unpleasant one.

CHAPTER X.

METALLIC PREPARATIONS.

IN former Pharmacopœias, there have been introduced various preparations of gold, which have been extolled as cordials, diaphoretics, and powerful purgatives; but with the best intent, they could not be administered, with safety, producing in some febrile cases, according to the account of KÖNIG and LUDOVICI, almost mortal diarrhœas.

But the experience of later times

has sufficiently shown, that this metal does not possess any valuable medical virtues; for in its metallic form, however finely comminuted, it proves *inactive*;—when satiated with acid, *corrosive*; and in the intermediate states, either *insignificant* or *unsafe*; preparations of this metal are therefore very judiciously thrown out of most modern Dispensatories.

S E C T. I.

PREPARATIONS OF SILVER.

SILVER is the most permanent in the fire of all the metals, after gold. It dissolves in the pure nitrous acid, into a colourless, transparent liquor, intensely bitter and corrosive. This solution exsiccated furnishes the shops with an useful caustic; which has likewise been taken internally in small doses, and mixed with other substances, as an *hydragogue*. It stains the skin black.

ARGENTUM NITRATUM;

formerly

CAUSTICUM LUNARE.

Nitrated silver.

Lond.

Take of

Silver, one ounce;

Diluted nitrous acid, four ounces,
by measure.

Let the silver be dissolved in a glass

vessel, upon warm sand: then gently increase the heat, until a dry mass be left. Melt this in a crucible, carefully avoiding too much heat, and pour it into moulds of a convenient form.

Edinb.

Take of.

Purest silver, flattened into plates,
and cut in pieces, four
ounces;

Dilute nitrous acid, eight ounces;

Distilled water, four ounces.

Let the silver be dissolved in a phial, by a gentle heat, and the solution evaporated to dryness. Put the mass into a large crucible, and place it in the fire; which must at first be gentle; augment it by degrees, until the mass flow like oil: then pour it into iron pipes made for this

purpose, previously heated and greased: and kept for use in a glass vessel close stopped.

Strong spirit of nitre will dissolve somewhat more than half its weight of pure silver; and the weaker of the aquæ fortes commonly distilled from calcined vitriol and nitre, proportionably less, according to their quantity of pure nitrous acid. Sometimes this spirit contains a portion of the vitriolic or marine acids; which, however minute, renders it unfit for dissolving this metal, and should therefore be carefully separated before the solution is attempted. The method which the refiners employ, for examining the purity of their aquafortis, and purifying it if necessary, is, to let fall into it a few drops of a perfect solution of silver already made. If the liquor remain clear, and grow not in the least turbid or whitish, it is fit for their use; otherwise, they add a small quantity more of the solution, which immediately turns the whole of a milk-white colour: the mixture being then suffered to rest for some time, deposits a white sediment; from which it is warily decanted, examined afresh, and, if need be, further purified, by a fresh addition of the solution.

The silver, flatted into thin plates, as directed in the second of the above processes, needs not be cut in pieces: the solution will go on the more speedily, if they be only turned round into spiral circumvolutions, so as to be conveniently got into the glass, with care that the several surfaces do not touch one another. By this management, a greater extent of the face is exposed to the action of the menstruum, than when the plates are cut in pieces and laid above one another. Good dilute nitrous acid will dissolve about half its weight of silver, and it is not advisable to

use a greater quantity of the menstruum than is sufficient for effecting the solution; for all the surplus must be evaporated in the subsequent fusion.

The crucible ought to be large enough to hold five or six times the quantity of the dry matter; for it bubbles and swells up greatly, so as otherwise to be apt to run over. During this time, also, little drops are now and then spirited up, whose causticity is increased by their heat, and against which the operator ought therefore to be on his guard. The fire must be kept moderate till this ebullition ceases, and till the matter becomes consistent in the heat that made it boil before: then quickly increase the fire till the matter flows thin at the bottom, like oil; on which it is to be immediately poured into the mould; without waiting till the fumes cease to appear; for when this happens, the preparation proves not only too thick to run freely into the mould, but likewise less corrosive than it is expected to be.

In want of a proper iron mould, one may be formed of tempered tobacco-pipe clay, not too moist, by making in a lump of it, with a smooth stick first greased, as many holes as there is occasion for: pour the liquid matter into these cavities, and, when congealed, take it out by breaking the mould. Each piece is to be wiped clean from the grease; and wrapt up in dry soft paper, not only to keep the air from acting upon them, but likewise to prevent their corroding or discolouring the fingers in handling.

This preparation is a strong caustic, and frequently employed as such, for consuming warts, and other fleshy excrescences, keeping down fungous flesh in wounds or ulcers, and similar uses. The free use of the argentum nitratum is recommended

highly in the cure of venereal chan-
cres, particularly in their incipient
state; and effectually cures, by
destroying the diseased parts,
which soon become clean, and
heal quickly as sores proceeding
from any other cause, and the same
magnitude, usually do. It is rarely
applied where a deep eschar is re-
quired, as in the laying open of
impostumations and tumours; for
the quantity necessary for these
purposes, liquefying by the moi-
sture of the skin, spreads beyond
the limits in which it is intended
to operate.

PILULÆ LUNARES.

The lunar pills.

Dissolve pure silver in dilute ni-
trous acid, as in the foregoing
process, and, after due evapora-
tion, set the liquor to crystallise.
Let the crystals be again dissolved
in common water, and mingled
with a solution of equal their
weight of nitre. Evaporate this
mixture to dryness, and continue
the exsiccation with a gentle
heat, keeping the matter constant-

ly stirring, till no more fumes arise.

Here it is necessary to continue
the fire till the fumes entirely cease,
as more of the acid is required to
be dissipated, than in the preceding
process. The preparation is, ne-
vertheless, in taste very sharp, in-
tensely bitter and nauseous; *ap-
plied to ulcers, it acts as a caustic,*
but much milder than the forego-
ing. BOOERHAAVE, BOYLE, and
others, greatly commend it *in hy-
dropic cases*. The former assures us,
that two grains of it made into a
pill, with crumb of bread and a
little sugar, and taken on an empty
stomach (some warm water, sweet-
ened with honey, being drunk im-
mediately after), *purge gently with-
out griping, and bring away a large
quantity of water, almost without the
patient's perceiving it: that it kills
worms, and cures many inveterate ul-
cerous disorders*. He nevertheless
cautions against using it too freely,
or in too large a dose; and ob-
serves, that it always proves cor-
rosive and weakening, especially to
the stomach.

S E C T. III.

PREPARATIONS OF IRON.

IRON calcines by fire the most
easily, and melts the most dif-
ficultly of all the metals. Sulphur
promotes its fusion, and changes it
into a substance not greatly dissi-
milar to a combination of the me-
tal with vitriolic acid. All acids
dissolve this metal; even the air
corrodes it into a rust or calx.

Iron, in its metallic form, or
lightly calcined, or combined with

vegetable or with mineral acids,
acts in the human body in the
same manner (but with different
degrees of power) by constringing
the fibres. In all these states, it
promotes or restrains secretions, where
the deficiency or excess proceeds
from a laxity and debility, of the
vessels; and, in general, *raises the
pulse, and quickens the circulation*.
The calces seem to be the least

active preparations; the crude metal, duly comminuted, is more easily soluble in the animal fluids, and, if acedent juices be lodged in the primæ viæ, soon manifests its operation by nidorous eructations, and the black colour of the alvine fæces: if previously combined with saline bodies, it scarce ever fails of taking effect.

As the calces of iron are scarcely dissoluble in acids, it has been concluded that they are not soluble in the human body, and that therefore they are to be looked upon no otherwise than as a mere inactive earth. But, admitting the absolute indissolubility of iron while it continues a calx, it must be observed, that the calces of this metal are remarkably easy of revival into their metallic state. M. BAUME' relates, that calx of iron, digested for an hour or two in oil olive, resumes its perfect metallic nature, so as to be attracted by the magnet, and totally soluble in acids; whence he infers, that a like revival of the metal happens in the human body. It is matter of common observation, that calces of iron tinge the excrements black, a sure mark of their taking effect: though their effect appears to be neither so speedy nor so great as that of iron in some other forms.

CHALYBIS RUBIGO PRÆPARATA.

Rust of steel prepared.

Lond.

Expose filings of steel to the air, frequently moistening them with water, until they are corroded; then grind them in a mortar, and, pouring on distilled water, wash over the more subtile powder. The remainder is to be exposed afresh to the air, and moistened as at first, then triturated and washed again: then let the pow-

der thus washed over subside, and evaporate it to dryness.

MARTIS LIMATURA PRÆPARATA.

Filings of iron prepared.

Edinb.

Let filings of iron, first cleansed by the magnet, be moistened often with water, that they may turn to rust, which is to be ground into an impalpable powder.

FERRI SQUAMÆ PURIFICATÆ.

Iron scales purified.

Edinb.

Let the scales of iron, found at the anvils of smiths, be purified by the application of a magnet;—for the magnet will only attract the smaller pure scales, leaving the larger ones which are less pure.

The cleansing of iron filings by means of a magnet is very tedious, and does not answer so well as might be expected; for if they be rusty, they will not be attracted by it, or not sufficiently: nor will they, by these means, be entirely freed from brass, copper, or other metallic substances which may adhere to them. It appears from the experiments of HENCKEL (*Pyritolog. cap. vom eisem in kiesel*) that if iron be mixed by fusion with even its own weight of any of the other metals, regulus of antimony alone excepted, the compound will be vigorously attracted by the loadstone. The rust of iron is to be procured at a moderate rate from the dealers in iron, free from any impurities, except such as may be washed off by water.

The rust of iron is preferable as a medicine to the calces or croci made by a strong fire. HOFFMAN relates, that he has frequently given it with remarkable success, in obstinate chlorotic cases, accompanied

H h

with excessive headachs, and other violent symptoms: and that he usually joined with it *pimpinella*, *arum root*, and *salt of tartar*, with a little *cinnamon* and *sugar*. The dose is from four or five grains to twenty or thirty: some have gone as far as a dram; but all the preparations of this metal answer best in small doses, which should rather be often repeated than enlarged.

MARS SACCHARATUS.

Candied steel.

Edinb.

A solution of two parts of sugar in water, boiled to the consistence of a candy, is gradually added to one part of purified iron filings, in a vessel hung over a very gentle fire, constantly shaken, that the filings may be crusted over with the sugar. Starch is previously added, in the proportion of one dram to a pound, to prevent their running into lumps.

This is a very agreeable preparation of steel; but has hitherto been made only by the confectioners. It is a convenient medicine for children, as from its sweetness they take it very readily; and, it may be given to the quantity of half a dram, in cases in which chalybeate medicines are proper.

ÆTHIOPS MARTIALIS.

Martial æthiops.

Take of

Rust of iron, any quantity;

Oil of olives, a sufficient quantity to make it into a paste;

Let this be distilled in a retort, by a strong fire, to dryness: keep the residuum, reduced to a fine powder, in a close vessel.

This process is much less tedious than that given in the former Pharmacopœia, and less troublesome also—besides, it is supposed to give nearly the same result. It has been recommended on the supposition that the iron is here obtained in a

very subtle state, but not in general supposed to have any advantage superior to the common chalybeates.

MARS SULPHURATUS.

Sulphurated iron.

Mix filings of iron with twice their weight of powdered sulphur, and as much water as is sufficient to make them into a paste; which, on standing at rest for six hours, will swell up. The matter is then to be pulverised, put by degrees into a hot crucible to de-flagrate, and kept continually stirring with an iron spatula till it falls into a deep black powder.

If the quantity of this mixture be considerable, and strongly pressed down, it will not only swell on standing for some hours, but will heave up very weighty obstacles, and burst out into flame.

CROCUS MARTIS APERIENS.

Opening crocus of iron.

This is made by keeping the foregoing preparation longer over the fire, till it assumes a red colour.

CROCUS MARTIS ASTRINGENS.

Astringent crocus of iron.

Edinb.

This is made from the opening crocus of iron, by reverberating it for a long time in the most extreme degree of heat.

These preparations may differ somewhat from one another in virtue; though the difference is not of such a kind as the titles they have been usually distinguished by import. All the preparations of steel act by an astringent quality; that above, denominated *astringent*, seems to have the least effect, in that way. They may be given in form of bolus, electary, or pill, from six grains to a scruple.

Formerly, they were not unfrequently in use; at present they are so seldom called for, that they have been rejected both by the London and Edinburgh colleges.

FERRUM TARTARISATUM.

Tartarised iron.

Lond.

Take of

Filings of iron, one pound;

Powdered crystals of tartar, two pounds;

Mix them with distilled water, into a thick paste, and expose them to the air, in a wide glass vessel, for eight days: dry it in a sand bath, and then rub it into a very fine powder.

In the former Dispensatory, there were two preparations—MARS SOLUBILIS, and MARS SOLUBILIS TARTARISATUS;—but that offered here has all the use of them, and is more easily prepared; indeed, it is considered a very elegant and useful preparation of steel, and will in many cases take effect after many other of the chalybeates have failed; the salt here joined rendering the metal sufficiently soluble in the animal fluids. It may be given either in a liquid form, or in that of a bolus, &c. in doses of four or five grains, or half a scruple.

FERRUM VITRIOLATUM USTUM.

vulgo

COLCOTHAR VITRIOLI.

Vitriolated iron calcined.

Edinb.

Let exsiccated vitriol of iron be exposed to a very strong heat, until it has a very red appearance.

FERRUM AMMONIACALE.

Lond.

AMMONIATUM.

Edinb.

formerly

FLORES MARTIALES, and ENS VENERIS.

Ammoniacal iron.

Lond.

Take of

Iron filings, one pound;

Sal ammoniac, two pounds;

Mix, and sublime—rub together what remains at the bottom of the vessel with the sublimed matter, and again sublime.

Edinb.

Take of

Vitriolated iron, burnt, washed, and again exsiccated,

Sal ammoniac,—of each equal weights;

Let them be well mixed and sublimed.

The results of these processes, though different in their mode of preparation, are ultimately the same.

The success of this process depends principally upon the fire's being hastily raised; that the sal ammoniac may not sublime before the heat is become strong enough to enable it to carry up a sufficient quantity of the iron. Hence glass vessels are not so proper as earthen or iron ones; for when the former are made use of, the fire cannot be raised quick enough, without endangering the breaking of them. The most convenient vessel is an iron pot: to which may be luted an inverted earthen jar, having a small hole in its bottom, to suffer the elastic vapours, which arise during the operation, to escape. It is of advantage to thoroughly mix the ingredients together, moisten them with a little water, and then gently dry them; and to repeat the pulverisation, humectation, and exsiccation, two or three times, or oftener. If this method be followed, the sal ammoniac may be increased to three times the quantity of the iron, or further; and a single sublimation will often be suffi-

cient to raise flowers of a very deep orange colour.

This preparation is supposed to be highly *aperient* and *attenuating*; though no otherwise so than the rest of the chalybeates, or at most, only by virtue of the saline matter joined to the iron. It has been found of service in *hysterical* and *hypochondriacal* cases, and in *distempers proceeding from a laxity and weakness of the solids*, as the *rickets*. It may be conveniently taken in the form of a bolus, from two or three grains to ten. It is nauseous in a liquid form (unless in spirituous tincture), and occasions pills to swell and crumble, except such as are made of the gums.

LIXIVUM MARTIS.

Ley of iron.

Lond.

Let the matter, which remains after the sublimation of the ammoniated iron, be set by in a moist place. It will run into a liquor, which is to be kept for use.

This liquor seems greatly to resemble a saturated solution of iron made in spirit of salt. Its taste is highly *astringent*, and somewhat sweetish. It may be given in doses of a drop or two in any convenient vehicle, for the same intentions as the other chalybeates.

FERRUM VITRIOLATUM.

L. E.

formerly

SAL MARTIS,

Lond.

SAL CHALYBIS,

Edinb.

Vitriolated iron.

Take of

Iron filings,

Vitriolic acid, each, by weight,
eight ounces;

Distilled water, three pints;

Mix them in a glass vessel; and, after the ebullition ceases, let the mixture stand for some time up-

on hot sand: then pour off and filter the liquor through paper; and, after proper exhalation, set it by to crystallise.

Edinb.

Take of

Filings of iron, six ounces;

Vitriolic acid, eight ounces;

Water, two pounds and an half;

The process is the same as the former.

During the dissolution of the iron, a strong sulphureous vapour arises, which, on the approach of flame, catches fire, and explodes, so as sometimes to burst the vessel. To this particular, therefore, the operator ought to have due regard. This vapour is also noxious to animal life: it is the inflammable air of Dr. PRIESTLEY.

The chemists are seldom at the trouble of preparing this salt according to the directions just given: but in its stead substitute common green vitriol, purified by solution in water, filtration, and crystallisation. The only difference betwixt the two is, that the common vitriol contains somewhat more metal in proportion to the acid; and hence in keeping, its green colour is much sooner debased by a rusty brownish cast. The superfluous quantity of metal may be easily separated, by suffering the solution of the vitriol to stand for some time in a cold place, when a brownish yellow ochry sediment will fall to the bottom; or it may be perfectly dissolved, and kept suspended, by a suitable addition of vitriolic acid. If the vitriol be suspected to contain any cupreous matter (which it does not appear that the common English vitriol ever does, though almost all the foreign vitriols do), the addition of some bright iron wire to the solution will both discover and

effectually separate that metal : for the acid quits the copper to dissolve a proportionable quantity of the iron ; and the copper, in its separation from the acid, adheres to the undissolved iron, and forms a skin of a true copper colour upon its surface. Even a vitriol of pure copper may, on this principle, be converted into a pure vitriol of iron.

But though the vitriolic acid appears, in this operation, to have so much stronger a disposition to unite with iron than with copper, that it totally rejects the latter upon presenting the former for it to act upon ; the operator may, nevertheless, give a dangerous impregnation of copper to the purest and most saturated solution of iron in the vitriolic acid, by the use of copper vessels. If the martial solution be boiled in a copper vessel, it never fails to dissolve a part of the copper, distinguishable by its giving a cupreous stain to a piece of bright iron immersed in it. By the addition of the iron, the copper is separated ; by boiling it again without iron, more of the copper is dissolved. And this may in like manner be separated by adding more iron.

The salt of steel is one of the

most efficacious preparations of this metal ; and not unfrequently made use of, in *cachectic* and *chlorotic* cases, for exciting the uterine purgations, strengthening the tone of the viscera, and destroying worms. It may be conveniently taken in a liquid form, largely diluted with aqueous fluids. BOERHAAVE directs it to be dissolved in an hundred times its quantity of water, and the solution to be taken in the dose of twelve ounces, on an empty stomach, walking gently after it. Thus managed, he says, it opens the body, purges, proves diuretic, kills and expels worms, tinges the excrements black, or forms them into a matter like clay, strengthens the fibres, and thus cures many different distempers. The quantity of vitriol in the above dose of the solution is fifty-seven grains and a half : but in common practice, such large doses of this chalybeate are never ventured on. Four or five grains, are sufficient, for the intentions in which chalybeate medicines are given. Very dilute solutions, as that of a grain of the salt in a pint of water, may be used as succedanea to the natural chalybeate waters, and will in many cases produce similar effects.

SECT. IV.

PREPARATIONS OF COPPER.

COPPER is less easy of solution than iron ; and, in its metallic state, does not appear to be acted on by the animal fluids, or to have any considerable effect in the

body. Dissolved, it proves externally an *escharotic* ; internally, a violent *purgative* and *emetic*. Acids of every kind dissolve it, and likewise volatile alkalies. With the

vegetable and marine acids, it forms a green solution,—with the vitriolic acid, and volatile alkalies, a blue.

CUPRUM AMMONIACUM.

Ammoniacal copper.

Edinb.

Take of the

Purest vitriolated copper, two parts;

Prepared ammonia, three parts.

Rub them well together in a glass mortar, until, all effervescence being over, they unite into a violet-coloured mass, which, rolled up in bibulous paper, must first be laid on a chalk stone, after dried with a moderate heat, and kept in a vessel well stopped.

AQUA CUPRI AMMONIATI.

Lond.

AQUA ÆRUGINIS AMMONIATÆ.

Edinb.

Water of ammoniated copper.

Lond.

— verdigris.
Edinb.

Take of

Sal ammoniac, one dram;

Lime water, one pint.

Let them stand together in a copper vessel until the ammoniac is saturated with the copper.

Edinb.

Take of

Fresh-made lime water, eight ounces;

Sal ammoniac, two scruples;

Verdigris powdered, four grains.

Mix and strain after twenty-four hours. For the medical virtues of these, see CUPRUM, Materia Medica.

TINCTURA VENERIS VOLATILIS.

Volatile tincture of copper.

Take of

Copper filings, one dram;

Spirit of sal ammoniac, twelve drams.

Let them stand together in a close vessel, frequently shaking it, until the liquor is tinged of a beautiful violet colour.

This tincture or solution of copper has been given internally, in the dose of a few drops, as a diuretic. Boerhave directs at first three drops to be taken in a morning fasting, with a glass of mead, and this dose to be daily doubled till it comes to twenty-four drops; which last quantity is to be continued for some days. He says, that by these means, he cured an hydro-pic person labouring under a confirmed ascites; and that the medicine procured surprising discharges of urine; that nevertheless, on trying it in another case of the same kind, it did not answer. See the article CUPRUM.

AQUA CUPRI VITRIOLATI COMPOSITA;

vulgo

AQUA STYPTICA.

Compound water of vitriolated copper.
Edinb.

Take

Vitriolated copper,

Alum,—of each three ounces;

Water, two pounds;

Vitriolic acid, one ounce and an half.

Boil the salts in the water that they may be dissolved, afterwards add the acid to the liquor filtered through paper.

This is formed upon the styptic recommended by SYDENHAM, for stopping bleeding at the nose, and other external hæmorrhages; for this purpose cloths or dossils are to be dipt in the liquor, and applied to the part.

SECT. V.

PREPARATIONS OF LEAD.

L EAD readily melts in the fire, and calcines into a dusky powder: which, if the flame be reverberated on it, becomes at first yellow, then red, and at length melts into a vitreous mass. This metal dissolves easily in the nitrous acid, difficultly in the vitriolic, and in small quantity in the vegetable acids; it is also soluble in expressed oil, especially when calcined.

Lead, and its calces, whilst undissolved, have no considerable effects as medicines. Dissolved in oils, they are supposed to be (when externally applied) anti-inflammatory and deliccative. Combined with vegetable acids, they are notably so; and, taken internally, prove a powerful but dangerous styptic.

PLUMBUM USTUM.

Burnt lead.

Melt lead with a gentle fire, and keep it continually stirring, with an iron spatula, till it change into powder.

MINIUM.

Red lead.

Let any quantity of lead be melted in an unglazed earthen vessel, and kept stirring with an iron spatula, till it fall into a powder, at first blackish, afterwards yellow, and at length of a deep red colour, in which last state it is called **MINIUM**; taking care not to raise the fire so high as to run the calx into a vitreous mass.

The preparation of red lead is so troublesome and tedious, as scarce ever to be attempted by the apothecary or chemist; nor indeed is this commodity expected to be made by them, the preparation of it being

a distinct branch of business. The makers melt large quantities of lead at once, upon the bottom of a reverberatory furnace built for this purpose, and so contrived, that the flame acts upon a large surface of the metal, which is continually changed by the means of iron rakes drawn backwards and forwards, till the fluidity of the lead be destroyed; after which, the calx is only now and then turned. By barely stirring the calx, as before directed, in a vessel over the fire, it acquires no redness; the reverberation of flame upon the surface being absolutely necessary for this effect. It is said, that twenty pounds of lead gain, in this process, five pounds; and that the calx, being reduced into lead again, is found one pound less than the original weight of the metal.

These calces are employed in external applications, for *abating inflammations, cleansing and healing ulcers*, and the like. Their effects, however, are not very considerable; nor are they perhaps of much further real use, than as they give consistence to the plaster, unguent, &c.

CERUSSA.

Ceruse, or white lead.

Put some vinegar into the bottom of an earthen vessel, and suspend over the vinegar very thin plates of lead, in such a manner that the vapour which arises from the acid, may circulate about the plates. Set the containing vessel in the heat of horse-dung, for three weeks. If, at the end of this time, the plates be not totally calcined, scrape off the white powder, and expose them again

to the steam of vinegar, till all the lead be thus corroded into powder.

The making of white lead also is become a trade by itself, and confined to a few persons, who have large conveniencies for this purpose. The general method which they follow, is nearly the same with that before described. See the Philosophical Transactions, No. 137.

In this preparation, the lead is so far opened by the acid, as to discover, when taken internally, the malignant quality of the metal; and to prove externally, when sprinkled on running sores or ulcers, moderately cooling, drying, and *astringent*.

AQUA LITHARGYRI ACETATA.

Water of acetated litharge.
Lond.

Take of

Litharge, two pounds and four ounces;

Distilled vinegar, one gallon.

Mix and boil to six pints, constantly stirring the liquor. Set it aside until the fæculencies have subsided, and then strain.

AQUA LITHARGYRI ACETATA COMPOSITA.

Compound water of acetated litharge.
Lond.

Take of

Water of acetated litharge, two drams by weight;

Distilled water, two pints;

Proof spirit of wine, two drams by measure.

Mix the spirit of wine with the water of acetated litharge, and then add the distilled water.

CERUSSA ACETATA.

Lond. and Edinb.

formerly

SACCHARUM SATURNI.

Acetated ceruse.

Take of

Ceruse, one pound;

Distilled vinegar, one gallon and an half.

Boil the ceruse with distilled vinegar, until the vinegar become sufficiently saturated, then filter the vinegar through paper, and, after due evaporation, set it to crystallise.

Edinb.

Put any quantity of ceruse into a cucurbit, and pour thereon ten times the quantity of distilled vinegar. Digest them together for some days in a sand-heat, till the vinegar has acquired a sweetish taste, when it is to be suffered to settle, and then poured off. Add fresh vinegar to the remainder, and repeat this process till the menstruum no longer extracts any sweet taste. Let all the impregnated liquors rest for some time: and, after they have been poured from the fæces, evaporate them in a glass vessel, to the consistence of thin honey; so that, upon being set in a cool place, the sugar may shoot into crystals, which are afterwards to be dried in the shade. Exhale the remaining liquor to a pelticle, set it again in the cold, and more crystals will shoot. Repeat this operation till no crystals can be any longer obtained.

Ceruse (especially that sort called *flake lead*, which is not, like the others, subject to adulteration) is much preferable either to minium or litharge, for making the sugar of lead: because the corrosion, which it has already undergone from the steam of vinegar, disposes it to dissolve more readily. It should be finely powdered before the vinegar is put to it, and during the digestion, or boiling, every now and then stirred up with a wooden spatula, to promote its dissolution, and prevent its concreting into a hard mass at the bottom. The strong

acid obtained from the caput mortuum of vinegar may be employed for this process to better advantage than the weaker, though purer acid, before directed. If a small quantity of rectified spirit of wine be prudently added to the solution as soon as it is duly exhaled, and the mixture suffered to grow cold by slow degrees, the sugar will concreate into very large and transparent crystals, which are scarcely to be obtained by any other method.

The crystals are ordered to be dried in the shade; because, if they are exposed to the sun-shine, they acquire a blackish colour; soon lose their saline condition, and the lead gradually assumes its metalline form: and this is supposed to happen from the absorption of light, and its conversion into phlogiston.

Lead communicates a sweetness and astringency very similar to the product of vinous fermentation, a practice too prevalent among fraudulent dealers, of correcting the too great sharpness of acid wines or cider, by adulterating them with this metal. But there are two different ways for detecting this imposition: a piece of paper may be written upon, or moistened with this liquor, and then exposed to the vapour of sulphurated kali; the paper where written upon, or moistened, will be of a livid colour; hence a solution of acetated ceruse makes a good sympathetic ink; as upon the same exposure the same circumstance will occur; or, if a solution of sulphurated kali be dropped into the suspected liquor, should there be any lead present, this addition will instantly occasion

a precipitation of a livid or dark-coloured cloud.

The acetated ceruse is much more efficacious than the foregoing preparations, in the several intentions to which they are applied. Some have ventured upon it *internally*, in doses of a few grains, as a *styptic*, in hæmorrhages, *profuse colliquative sweats*, *seminal fluxes*, the *fluor albus*, &c. nor has it failed their expectations. It *very powerfully restrains the discharge*; but almost as certainly as it does this, it occasions symptoms of another kind, often more dangerous than those removed by it, and sometimes fatal. *Violent pains in the bowels*, or *through the whole body*, and *obstinate constipations*, sometimes immediately follow, especially if the dose has been considerable. *Cramps*, *tremors*, and *weakness of the nerves*, generally, sooner or later, ensue.

Boerhaave is of opinion that this preparation proves malignant only so far as its acid happens to be *absorbed* in the body; for in such case, he says, "it returns again into ceruse, which is violently poisonous." On this principle it would follow, that in habits where acidities abound, the sugar of lead would be innocent. But this is far from being the case. Lead and its preparations act in the body only so far as they are *combined* with acid. Ceruse possesses the qualities of the compound only in a low degree; and either of them, freed from the acid, has little, if any effect at all. See a fuller account of its medical effects under PLUMBUM, *Materia Medica*.

S E C T. VI.

PREPARATIONS OF TIN.

TIN easily melts in the fire, and calcines into a dusky powder, which, by a further continuance of the heat, becomes white. A mass of tin, heated till it is just ready to melt, proves extremely brittle, so as to fall in pieces from a blow, and, by dextrous agitation, into powder. Its proper menstruum is aqua regia; though the other mineral acids also may be made to dissolve it, and the vegetable ones in small quantity. It crystallises with the vegetable and vitriolic acids; but with the others, deliquiates.

The virtues of this metal are little known. It has been recommended as an *antihysteric*, *antihæctic*, &c. At present it is chiefly used as an anthelmintic.

STANNI PULVIS;

formerly

STANNUM PULVERATUM.

Powder of tin.

Lond.

Take of tin, four ounces. Melt it and take off the scum; then pour it into a clean iron vessel, shake it, or rub it to powder, and press the finest part of it through a hair sieve.

This preparation has been used for some time as a remedy *against worms*, particularly the flat kinds, which too often elude the force of other medicines. The general dose for *children* is from ten grains to twenty; for *adults*, one dram to two or more; some confine it to a few

grains. But Dr. Alston assures us, in the *Edinburgh Essays*, that its success chiefly depends upon its being given in much larger quantities. He gives an ounce of the powder on an empty stomach, mixed with four ounces of melasses; next day, half an ounce; and the day following, half an ounce more: after which a cathartic is administered. He says the worms are usually voided during the operation of the purge, but that pains in the stomach occasioned by them are removed almost immediately upon taking the first dose of the tin.

In the expulsion of the tænia this method is sometimes successful; but by no means so frequently as Dr. Alston would lead us to hope, as has been proved by repeated experiments, where it has totally failed. See STANNUM, *Materia Medica*.

In the former edition of this work there were three preparations more of this metal, *Calx Jovis*, *Sal Stanni*, and *Aurum Musivum*: but as the two last have not been found to possess any medical virtues that could be depended upon, they are very properly thrown out of practice; and as the *Calx Jovis* is so very nearly similar to the *Pulvis Stanni* in its medical properties, it was thought useless to burthen the Pharmacopœia with so unnecessary a process. The present Pharmacopœia of Edinburgh has no preparation of tin.

S E C T. VII.

PREPARATIONS OF ZINC.

THIS metal melts in a red heat; and, if the air be admitted, flames, and sublimes into light, white, downy flowers; if the air be excluded, it arises, by a strong fire, in its metallic form. Sulphur, which unites with or scorifies all the other metals except gold, does not act on zinc. Acids of every kind dissolve it.

Zinc, its flowers or calces, and solutions, taken internally, prove strong and quick emetics; in small doses, they are said to be diaphoretic. Externally, they are cooling, astringent, and desiccative.

PURIFICATIO ZINCI.

Purification of zinc.

Melt zinc with a heat no greater than is just sufficient to keep it fluid. Stir it strongly with an iron rod, and throw in alternately pieces of sulphur and of tallow, the first in largest quantity. If any consistent matter, or scoria, form on the top, take it off, and continue the process, until the sulphur be found to burn freely and totally away on the surface of the fluid zinc.

Zinc usually contains a portion of lead, which this process effectually separates. Sulphur united with lead forms a mass, which does not melt in any degree of fire that zinc is capable of sustaining.

ZINCUM CALCINATUM.

*Calcined zinc.**Lond.*

Take zinc broken into small pieces, eight ounces.

Cast the zinc at different times into a large, deep, and inclined crucible, heated to a white heat, putting upon it another crucible

in such a manner that the air may have free access to the burning zinc.

Take out the calx as soon as it is formed, and separate its white and slighter part by passing it through a sieve.

ZINCUM USTUM;

vulgo

FLORES ZINCI.

*Calcined zinc.**Edinb.*

Let a large crucible be so placed in a furnace with burning coals, that the mouth may incline a little towards you; and when the bottom is of a moderately white heat, let a piece of zinc about a dram weight be thrown in; in a short time the zinc will be in a flame, and at the same time be converted into white flocculent appearances, which are to be taken from the surface of the metal now and then, with an iron spatula, that the calcination may be more perfectly completed; and at last, when the flame ceases, let the calcined zinc be taken out of the crucible. Another piece of zinc must then be thrown into the crucible, and the operation repeated as long as it becomes necessary. The calcined zinc is to be prepared in the same manner as antimony.

Calcined zinc is more pure than tutty or pompholyx, and likewise calamine, the natural ore of this metal, and therefore more fitted for medicinal purposes. It has been applied externally, but has also been highly recommended by GAUBIUS, in doses to adults from one grain to four or five in epileptic complaints: of late it has been given in larger doses. It has also been

administered in several spasmodic affections, where medicines possessing a tonic power have been thought requisite, and has been attended with good consequences. See also ZINCUM, Materia Medica.

ZINCUM VITRIOLATUM;

vulgo

VITRIOLUM ALBUM.

Vitriolated zinc.

Edin.

Take of

Zinc, cut into pieces, three ounces;

Vitriolic acid, five ounces;

Water, twenty ounces.

To the acid and water mixed together add the zinc, and when the ebullition has ceased, strain the liquor; after proper evaporation, set it aside in a cold place, to crystallise.

This differs from the common white vitriol in being much purer, and perfectly free from any admixture of copper, or other foreign metallic bodies; and, when thus prepared, supersedes the receipt of the following formula of the London Pharmacopœia.

ZINCUM VITRIOLATUM PURIFICATUM.

Vitriolated zinc purified.

Lond.

Take of

White vitriol, one pound;

Vitriolic acid, one dram;

Boiling distilled water, three pints.

Mix and filter through paper. After a proper evaporation, set it aside in a cold place, to crystallise.

The vitriolic acid is here added to deprive the common white vitriol of any copper or ferruginous matter with which it may be, as is usual, impregnated; but this appears to be more certainly done by the addition of zinc, for this would deprive the other materials of their acid, and cause them to precipitate; whilst the addition of the vitriolic acid would unite the copper or iron matter, and form them into metalline salt, which would crystallise with the vitriolated zinc, and hence remain inseparable.

AQUA ZINCI VITRIOLATI;

vulgo

AQUA VITRIOLICA.

Water of vitriolated zinc.

Edinb.

Take of

Vitriolated zinc, sixteen grains;

Water, eight ounces;

Diluted vitriolic acid, sixteen drops.

Dissolve the vitriol in the water, afterwards add the acid; and filter through paper.

For the medical virtues of these preparations, see VITRIOLUM ALBUM, and ZINCUM, Materia Medica.

SECT. VIII.

PREPARATIONS OF MERCURY.

MERCURY, or quicksilver, is a ponderous metallic fluid, totally volatile in a strong fire, and calcinable by a weaker one (though

very difficultly) into a red powdery substance. It dissolves in the nitrous acid, is corroded by the vitriolic, but not acted on by the

marine in its liquid state. It nevertheless may be combined with this last, if skilfully applied in the form of fume. Quicksilver unites, by trituration, with earthy, unctuous, resinous, and similar substances, so as to lose its fluidity: triturated with sulphur, it forms a black mass, which by sublimation changes into a beautiful red one.

We have given an account of the general mode of operation of mercury in the *Materia Medica*: we must now therefore proceed to enumerate its preparations, and make such observations as their nature, or specific action may require.

HYDRARGYRUS PURIFICATUS;

formerly

ARGENTI VIVI PURIFICATIO.

Purified quicksilver.

Lond.

Take of

Quicksilver,

Filings of iron,—of each four pounds.

Rub them together, and distil from an iron vessel.

If a glass retort be made use of for this operation, it ought to have a low body, and a long neck; and the neck should be considerably inclined downwards, so as to allow the elevated mercury a quick descent. The receiver should be filled almost to the neck of the retort with water; the use of this is not to condense, but to cool, the distilling quicksilver, lest, falling hot upon the bottom, it should crack the glass. The distillation may be more conveniently performed in an iron retort, or an iron pot fitted with a head.

The fire should be raised no higher than is sufficient to elevate the mercury; for certain mineral substances, which are said to be sometimes mixed with it, prove in

part volatile in a degree of heat not much greater than that in which mercury distils.

HYDRARGYRUS ACETATUS.

Acetated quicksilver.

Lond. and Edinb.

Take of

Purified quicksilver,

Diluted nitrous acid,—of each half a pound;

Acetated kali, three ounces;

Warm distilled water, two pints, or two pounds and an half.

Mix the nitrous acid with the quicksilver in a glass vessel, and digest with a gentle heat for twenty-four hours, that the quicksilver may be dissolved. Pour this nitrated quicksilver into a solution of the acetated kali previously made in warm water (heated to about 90 degrees), and the acetated quicksilver is precipitated. Wash this first with cold distilled water, and then dissolve it in as much boiling distilled water as is sufficient for the purpose. Filter the solution through paper, and set it aside to crystallise.

This is considered as the mildest of the preparations of the mercurial salts; and is said to be the basis of KEYSER's pills. It may be given like calomel in doses of a few grains, in similar disorders and intentions.

HYDRARGYRUS CUM CRETA;

vulgo

MERCURIUS ALCALIZATUS.

Quicksilver with chalk.

Lond.

Take of

Pure quicksilver, three ounces;

Prepared chalk, five ounces.

Grind them together in a glass mortar, till the mercurial globules disappear.

The medicine, when duly prepared, is an *useful alterative*; and

may be given, in *cutaneous* or *venereal* cases, from two or three grains to a scruple.

MERCURIUS SACCHARATUS.

Sugared mercury.

Edinb.

Take of

Pure quicksilver,
Brown sugar-candy,—of each
half an ounce;
Essential oil of juniper berries,
sixteen drops.

Grind them together in a glass mortar, until the mercury ceases to appear.

The essential oil, here added, is said to be a very useful ingredient; not only promoting the extinction of the quicksilver (which however is still not a little difficult and tedious), but likewise improving the medicine. The intention, in this and the foregoing process, is only to divide the mercury by the interposition of other bodies; for when thus managed (as already observed) it has very powerful effects; though, whilst undivided, it seems to be altogether inactive. Sugar alone apparently answers this intention; but, on the commixture of aqueous fluids, the sugar dissolves by itself, leaving the mercury to run together again in its original form. The addition of the oil is said in great measure to prevent this inconvenience. The dose of this medicine, as an alterative, is from two or three grains to a scruple.

HYDRARGYRUS CUM SULPHURE.

Lond.

HYDRARGYRUS SULPHURATUS NIGER.

Edinb.

formerly

ÆTHIOPS MINERALIS.

Quicksilver with sulphur.

Lond.

Take of

Purified quicksilver,
Flowers of sulphur,—of each
one pound.

Grind them together, in a glass or stone mortar, until the globules disappear.

Edinb.

Take of

Purified quicksilver,
Flowers of sulphur,—each equal
weights.

Grind them together in a glass or stone mortar, with a glass pestle, till the mercurial globules totally disappear.

An æthiops is made also with a double quantity of mercury.

The union of the mercury and sulphur might be greatly facilitated by the assistance of a little warmth. Some are accustomed to make this preparation in a very expeditious manner, by melting the sulphur in an iron ladle, then adding the quicksilver, and stirring them together till the mixture be completed. The small degree of heat here sufficient, cannot reasonably be supposed to do any injury to substances, which have already undergone much greater fires, not only in the extraction from their ores, but likewise in the purifications of them directed in the Pharmacopœia, for making the *hydrargyrus sulphuratus ruber*. In the process, they are exposed in conjunction to a strong fire, without suspicion of the compound's receiving any ill quality from it. Thus much is certain, that the ingredients are more perfectly united by heat, than by the degree of the triture usually bestowed upon them. From the æthiops prepared by triture, part of the mercury is apt to be spued out on making it into an electary or pills. From that made by fire, no separation is observed to happen.

Quicksilver with sulphur is one of the most inactive of the mer-

curial preparations. Some practitioners have boldly asserted its possessing extraordinary virtues; and most people imagine it a medicine of some efficacy. But what benefit is to be expected from it in the common doses of eight or ten grains, or a scruple, may be judged hence, that it has been taken in doses of several drams, and continued for a considerable time, without producing any remarkable effect. Sulphur eminently abates the power of all the more active minerals, and seems to be at the same time restrained by them from operating in the body itself. Boerhaave, who is in general sufficiently liberal in the commendation of medicines, disapproves the æthiops in very strong terms. "It cannot enter the absorbent vessels, the lacteals or lymphatics; but passes directly through the intestinal tube, where it may happen to destroy worms, if it operate luckily. They are deceived who expect any other effects from it; at least I could never find them. I am afraid, it is unwarily given, in such large quantities, to children and persons of tender constitutions. As being a foreign mass, unconquerable by the body, it is the more to be suspected, since it there continues long, sluggish and inactive. It does not raise a salivation, because it cannot come into the blood. Who knows the effects of a substance, which, so long as it remains compounded, seems no more active than any ponderous insipid earth?" The black sulphurated quicksilver, with a double proportion of mercury, now received into the Edinburgh Pharmacopœia, has a greater chance of operating as a mercurial; and probably the quantity of mercury

might be still further increased to advantage.

HYDRARGYRUS PRÆCIPITATUS CINEREUS;

vulgo

PULVIS MERCURII CINEREUS.

Ash-coloured precipitated quicksilver.
Edinb.

Take

Quicksilver,

Dilute nitrous acid, — of each equal weights.

Mix them so that the quicksilver may dissolve; dilute the solution with pure water, and add of water of ammonia, as much as will be sufficient totally to free the quicksilver from the acid: then let the matter precipitated be washed with pure water, and dried.

This is a calx of quicksilver precipitated from its solution in the nitrous acid, by the volatile alkali; and the liquor is a true nitrous ammonia. And these precipitates from the nitrous acid are more complete calces, than those from any other menstruum, because of the great attraction the nitrous acid has for phlogiston, and the ready disposition to part with its fixed air. However, great care should be taken that there should be neither too great nor too small a proportion of nitrous acid in completing the solution. This precipitate has been much celebrated for the cure of venereal affections; and from the experience of several respectable practitioners, it has been proved to be a very valuable preparation of quicksilver.

It may be given in doses of from one to six or seven grains; and gradually increased according to its effects.

HYDRARGYRUS SULPHURATUS RUBER;

formerly

CINNABARIS FACTITIA.

*Red sulphurated quicksilver.**Lond.*

Take of

Purified quicksilver, forty ounces;

Sulphur, eight ounces.

Melt the sulphur; and mix into it the quicksilver. If the mixture happen to catch flame, extinguish it by covering the vessel. The matter is afterwards to be reduced into powder, and sublimed.

It has been customary to order a larger quantity of sulphur than here directed; but these smaller proportions answer better; for, the less sulphur, the finer coloured is the cinnabar.

As soon as the mercury and sulphur begin to unite, a considerable explosion frequently happens, and the mixture is very apt to take fire, especially if the process be somewhat hastily conducted. This accident the operator will have previous notice of, from the matter's swelling up, and growing suddenly consistent. As soon as this happens, the vessel must be immediately close covered.

During the sublimation, care must be taken that the matter rise not into the neck of the vessel, so as to block up and burst the glass. To prevent this, a wide-necked bolt-head, or rather an oval earthen jar, coated, should be chosen for the subliming vessel. If the former be employed, it will be convenient to introduce, at times, an iron wire, somewhat heated, in order to be the better assured that the passage is not blocking up; the danger of which may be prevented, by cautiously raising the vessel higher from the fire.

If the ingredients were pure, no fæces will remain. In such case, the sublimation may be known to be over, by introducing a wire as

before, and feeling the bottom of the vessel, which will then be perfectly smooth. If any roughness or inequalities be perceived, either the mixture was impure, or the sublimation is not completed; if the latter be the case, the wire will soon be covered with the rising cinnabar.

The preparers of cinnabar in large quantity employ earthen jars, which in shape pretty much resemble an egg. These are of different sizes, according to the quantity intended to be made at one sublimation, which sometimes amounts to two hundred weight. The jar is usually coated from the small end, almost to the middle, to prevent its breaking, from the vehemence or irregularity of the fire. The greater part, which is placed uppermost, not being received within the furnace, has no occasion for this defence. The whole secret, with regard to this process, is (1) the management of the fire, which should be so strong as to keep the matter continually subliming to the upper part of the jar, without coming out of its mouth, which is covered with an iron plate; (2) to put into the subliming vessel only small quantities of the mixture at a time.

A method is mentioned in the Practical Chemistry of making cinnabar without sublimation, by agitating or digesting mercury in the volatile tincture of sulphur, already described. I have found a sulphureous liquor, more easily preparable, to have a like effect. The solution for *lac sulphuris* will, with some address, succeed.

The principal use of cinnabar is as a pigment. It was formerly held in great esteem as a medicine, in cutaneous foulnesses, gouty and rheumatic pains, epileptic cases, &c. but, of late, it has lost much of its reputation. It appears to be nearly simi-

lar to the black sulphurated quicksilver, already spoken of. CARTHEUSER relates, that having giving cinnabar in large quantities to a dog, it produced no sensible effect, but was partly voided along with the *scæces* unaltered, and partly found entire in the stomach and intestines upon opening the animal. The celebrated FREDERICK HOFFMAN, after bestowing high encomiums on this preparation, as having, in many instances within his own knowledge, perfectly cured *epilepsies* and *vertigoes* from contusions of the head (where it is probable, however, that the cure did not so much depend upon the cinnabar, as on the spontaneous recovery of the parts from the external injury), observes, that the large repeated doses, necessary for having any effect, can be borne only where the first passages are strong; and that if the fibres of the stomach and intestines be lax and flaccid, the cinnabar, accumulated and concreting with the mucous matter of the parts, occasions great oppression; which seems to be an acknowledgment that the cinnabar is not subdued by the powers of digestion, and has no proper medicinal activity. There are indeed some instances of the daily use of cinnabar's having brought on a salivation: perhaps because the cinnabar, made use of in those cases, contained a less proportion of sulphur than the sorts commonly met with. The *regulus of antimony*, and even *white arsenic*, when combined with a certain quantity of common sulphur, seem to have their deleterious power destroyed: on separating more and more of the sulphur, they exert more and more of their proper virulence. It does not seem unreasonable to presume, that quicksilver may have its activity varied in like manner; that, when perfectly satiated with sul-

phur, it may be inert; and that, when the quantity of sulphur is more and more lessened, the compound may have greater and greater degrees of the proper efficacy of mercurials.

Cinnabar is sometimes used in fumigations against *venereal ulcers in the nose, mouth, and throat*. Half a dram of it burnt, the fume being imbibed with the breath, has occasioned a violent salivation. This effect is by no means owing to the medicine as cinnabar. When set on fire, it is no longer a mixture of mercury and sulphur, but mercury resolved into fume, and blended in part with the volatile vitriolic acid; in either of which circumstances, this mineral, as already observed, has very powerful effects.

SOLUTIO HYDRARGYRI SIMPLEX.

Simple solution of quicksilver.

Take of

Pure quicksilver, one dram;
Gum arabic, two drams.

Rub them together in a stone mortar; adding, very gradually, distilled water of fumitory, till the quicksilver thoroughly disappear in the mucilage.

After they have been thus rubbed together, and perfectly mixed, add

Syrup of kermes, half an ounce;
Distilled water of fumitory, eight ounces.

This is PLENCK's simple mercurial solution, which will be easily prepared, and become a more elegant medicine, if, instead of gum arabic, the mucilage of gum tragacanth—instead of syrup of kermes, honey, or syrup of white poppy—for water of fumitory rose water, are made use of.

This, however, is certainly a good preparation of quicksilver, inasmuch as it has been found that quicksilver, mixed with mucilaginous substances in this form, is not

likely to produce diarrhœa, or salivation; the mucilage tending to prevent its action on the intestines and salivary glands to a remarkable degree.

This compound is not supposed to be the globules of quicksilver minutely divided, so as to become imperceptible, and diffused through the mucilaginous liquid; but a true calx of quicksilver formed by trituration. Hence, much depends on the operation for completely perfecting this composition; a more certain medicine, it has been said, may be formed, by minutely mixing a determinate quantity of the *hydrargyrus præcipitatus cinereus*, with mucilaginous and other acid substances.

HYDRARGYRUS CALCINATUS;

formerly

MERCURIUS CALCINATUS.

Calined quicksilver.

Lond.

Take of purified quicksilver, one pound.

Expose the quicksilver, in a flat-bottomed glass cucurbit, to a sand-heat of 600 degrees, until it becomes a red powder.

This preparation is one of the most active preparations of quicksilver, and by some highly esteemed in *venereal cases*, and supposed to be the most efficacious and certain of all the mercurials. It may be advantageously given in conjunction with opiates. A bolus or pill, containing from half a grain to two grains of this calx; and a quarter or half a grain or more of opium, with the addition of some warm aromatic ingredient, may be taken every night. Thus managed, it acts mildly, though powerfully, as an alterative and diaphoretic. Given by itself in larger doses, as four or five grains, it proves a rough emetic and cathartic.

HYDRARGYRUS NITRATUS RUBER;

Lond. Edin.

formerly

MERCURIUS CORROSIVUS RUBER;

Lond.

MERCURIUS CORROSIVUS PRÆCIPITATUS;

Edinb.

Red nitrated quicksilver.

Lond.

Take of

Purified quicksilver,
Nitrous acid,—of each a pound;
Muriatic acid, one dram by weight.

Mix them in a glass vessel and dissolve the quicksilver in a sand bath; then raise the fire until the matter forms into red crystals.

Edinb.

Take of

Quicksilver,
Distilled nitrous acid,—of each, a pound.

Let the quicksilver be dissolved and the solution evaporated by a slow fire, into a dry, white mass, which being powdered and put into a glass cucurbit, and subjected to a fire gradually increased, the matter must be constantly stirred with a glass rod, that it may be heated equally, until a little of it, taken out with a glass spoon, and cooled, exhibits red shining scales; then let the vessel be removed from the fire.

The marine acid, ordered in the first process, disposes the mercurial calx to assume the bright sparkling look admired in it; which, though perhaps no advantage to it as a medicine, ought nevertheless to be insisted on by the buyer as a mark of its goodness and strength. As soon as the matter has gained this appearance, it should be immediately removed from the fire, otherwise it will soon lose it again. The prepar-

tion of this red nitrated quicksilver, in perfection, is supposed by some to be a secret not known to our chemists; so that we are under a necessity of importing it from abroad. This reflection seems to be founded on misinformation. We sometimes indeed receive considerable quantities from Holland; but this depends upon the ingredients being commonly cheaper there than with us, and not upon any secret in the manner of the preparation.

This preparation is an *escharotic*, and, in this intention, is frequently employed by the surgeons, with unguentum resinæ flavæ, and other dressings, for *consuming fungous flesh in ulcers*, and the like purposes. It is subject to great uncertainty in point of strength; more or less of the acid exhaling, according to the degree and continuance of the fire. The best criterion of its strength, as already observed, is its brilliant appearance; which is also the mark of its genuineness. If mixed with *minium*, which it is sometimes said to be, the *duller hue will discover the abuse*. This admixture may be more certainly detected by means of fire. The mercurial part will totally evaporate, leaving the *minium* behind.

Some have ventured to give this medicine internally, in *venereal, scrophulous*, and other *obstinate chronic disorders*, in doses of two or three grains, and more. But certainly the milder mercurials, properly managed, are capable of answering all that can be expected from this; without occasioning violent anxieties, tormina of the bowels, and other ill consequences, which the best management can scarcely prevent this corrosive preparation from sometimes doing. The chemists have contrived many methods of correcting and rendering it milder, by divesting it of a portion of the acid; but to no very good purpose,

as they either leave the medicine still too corrosive, or render it similar to others which are procurable at an easier rate.

MERCURIUS CORALLINUS.

Coralline mercury.

Pour on nitrated quicksilver about thrice its weight of rectified spirit of wine, and digest them together, with a gentle heat, for two or three days, frequently shaking the vessel. Then set fire to the spirit, keeping the powder continually stirring till all the spirit is burnt away.

It is supposed, that all the more violent preparations of this kind, composed of metallic bodies united with acids, are rendered milder by digestion in spirit of wine; the acid being dulcified, or in part absorbed by the spirit. This evidently happens in some cases, where the proportion of acid is large, or sufficient to render the compound soluble in water: but that it happens equally in others, I cannot affirm. Thus much is certain, that the mercurius corallinus, whether from this cause, or barely from some of the acid's being dissipated by the heat of the burning spirit, proves considerably milder than the nitrated quicksilver was at first. It is still, however, a medicine of great activity, and seems to be scarce sufficiently safe for internal use. A few grains of it generally prove cathartic or emetic, and sometimes occasion violent symptoms.

HYDRAGYRUS MURIATUS;

Lond.

HYDRAGYRUS MURIATUS CORROSIVUS;

Edin.

vulgo

MERCURIUS CORROSIVUS SUBLIMATUS, vel ALBUS.

Muriated, or corrosive muriated quicksilver.

Lond.

Take of

Purified quicksilver, two pounds;
 Vitriolic acid, thirty ounces;
 Dried sea-salt, four pounds.

Mix the quicksilver with vitriolic acid in a glass vessel, and boil in a sand-heat, to dryness. Mix it when cold with the sea-salt in a glass vessel; then sublime in a glass cucurbit, with a heat gradually raised; and lastly, separate the sublimed matter from the scoria.

Edin.

Take of

Quicksilver,

Dilute nitrous acid, — of each,
 four ounces;

Dried sea-salt,

Vitriolated iron, — of each, five
 ounces.

Let the quicksilver be dissolved in the nitrous acid, and the solution evaporated to a perfectly dry mass; then add the sea-salt, and vitriolated iron. When well rubbed and mixed together, let them be put into a phial, which they will about half fill; and sublimed from sand, first with a gentle fire, which must be afterwards gradually increased.

Both these preparations consist only of mercury and the acid of the sea salt united together. In the latter process, the materials being mixed and exposed to the fire, first the vitriol parts with its acid; which, dislodging those of the nitre and marine salt, takes their place. The marine acid, resolved into fume and assisted by the nitrous, dissolves the mercury now also strongly heated. This acid, though it very difficultly acts on mercury, yet when thus once united with it, is more strongly retained thereby than any other acid. The nitrous spirit, therefore, having nothing to retain it (for its own basis, and that of the sea-salt are both occupied by the vitriolic; and that which the vitriolic forsook to unite with these, is now scarcely combinable with

it), arises; leaving the mercury and marine acid to sublime together, when the heat shall be strong enough to elevate them. Some small portion of the marine spirit arises along with the nitrous; and hence this compound acid has been employed, formerly, for making the red corrosive.

It appears, therefore, that the vitriol, and bases of the nitre and sea-salt, are of no further use in this process, than as convenient intermediata for facilitating the union of the mercury with the marine acids. They likewise serve to afford a support for the sublimate to rest upon, which thus assumes the form it is expected in, that of a placenta or cake.

There are sundry other ways of making this preparation, or of combining mercury with the marine acid; but that adopted by the London college is one, at least, of the best. For there, mercury, corroded by the vitriolic acid into a white mass, is mixed with an equal quantity of sea-salt and set to sublime; the vitriolic acid will quit the mercury to unite with the basis of the sea-salt; and the acid of the sea-salt, now set at liberty, will unite with the mercury, and sublime with it into the compound required. The discovery of this method is generally attributed to Boulduc; though it is found also in KUNCKEL's *Laboratorium Chymicum*.

If the mercury be corroded by the nitrous, instead of the vitriolic acid; the event will be the same; that acid equally quitting the mercury, and setting loose the marine; and the sublimate made by this method is the same with the foregoing; but as the quantity of fixt matter is small, it difficultly assumes the form of a cake. It requires, indeed, some skill in the operator, to give it this appearance when either process is followed.

When large quantities are made, this form may be easily obtained, by placing the matrafs no deeper in the sand than the surface of the matter contained in it; and removing a little of the sand from the sides of the glass, as soon as the flowers begin to appear in the neck; when the heat should likewise be somewhat lowered, and not at all raised during the whole process. The sublimation is known to be completed when the edges of the crystalline cake, which will form upon the surface of the caput mortuum, appear smooth and even, and a little removed from it.

Our apothecaries rarely, and few even of the chemists, attempt the making of this preparation themselves; greatest part of what is used among us comes from Venice and Holland. This foreign sublimate has been reported to be adulterated with arsenic. Some affirm that this dangerous fraud may be discovered by the sublimate's turning black on being moistened with the alkaline ley; which by others is denied. As this point seemed of some importance to be determined, I made sundry experiments with this view, which convinced me of the insufficiency of alkalies for discovering arsenic. Alkaline ley, poured into a solution of pure arsenic, and into a mixture of the two solutions in different proportions, produced no blackness in any: and though the pure sublimate, and the mixtures of it with arsenic, exhibited some differences in these trials, yet these differences were neither so constant, nor so strongly marked, as to be laid down, universally, for criteria of the presence or absence of arsenic. Different specimens of sublimate, known to be pure, differed considerably in this respect; probably from their holding a little more or less mercury in proportion

to the acid, or from their retaining some small portion of those acids which were employed in the preparation as intermedia.

Some chemists deny the practicability of this adulteration. There is a process, common in books of chemistry, wherein sublimate and arsenic being mixed together and set to sublime, they do not arise in one mass, or yield any thing similar to the preparation here intended: the arsenic absorbs the acid of the sublimate, and is reduced thereby into a liquid or butyraceous consistence; while the mercury, thus freed from the acid, distils in its running form: if the quantity of arsenic be insufficient to decompose the whole of the sublimate, the remainder of the sublimate concretes distinct from the arsenical butter. Whence they conclude, that arsenic and sublimate cannot be united together into a crystalline cake, the form in which this preparation is brought to us.

The above experiment is not altogether decisive; for though arsenic and sulphur do not assume the required form by the common process, it is possible they may by some other management. It will therefore be proper to point out means for the satisfaction of those who may be desirous of convincing themselves of the genuineness of this important preparation. Let some of the sublimate, powdered in a glass mortar, be well mixed with twice its weight of black flux, and a little filings or shavings of iron: put the mixture into a crucible capable of holding four or five times as much; give a gradual fire till the ebullition ceases, and then hastily increase it to a white heat. If no fumes of the garlic smell can be perceived during the process; and if the particles of iron retain their form, without any of them being melted; I think we may be

secure that the mixture contained no arsenic.

SUBLIMATE is a most violent corrosive, presently corrupting and destroying all the parts of the body it touches. A solution of it in water, in the proportion of about a dram to a quart, is made use of for *keeping down proud flesh*, and *cleansing foul ulcers*, and a more dilute solution as a *cosmetic*, and for *destroying cutaneous insects*. But a great deal of caution is requisite even in these external uses of it.

Some have nevertheless ventured to give it internally, in the dose of one-tenth or one-eighth of a grain. BOERHAAVE relates, that if a grain of it be dissolved in an ounce or more of water, and a dram of this solution, softened with syrup of violets, taken twice or thrice a day, it will perform wonders in many reputed incurable distempers; but particularly cautions us not to venture upon it, unless the method of managing it be well known.

Sublimate dissolved in vinous spirits has of late been given internally in larger doses; from a quarter of a grain to half a grain. This method of using it was brought into vogue by baron VAN SWIETEN at Vienna, particularly for venereal maladies; and several trials of it have been made in this kingdom also with success. Eight grains of the sublimate are dissolved in sixteen ounces of rectified spirit of wine or proof spirit; the rectified spirit dissolves it more perfectly, and seems to make the medicine milder in its operation, than the proof spirit of the original prescription of VAN SWIETEN. Of this solution, doses from one to two spoonfuls, that is, from half an ounce to an ounce, are given twice a day, and continued till all the symptoms are removed; observing to use a low diet, with plentiful dilution, otherwise the sublimate is apt

to purge, and gripe severely. It generally *purges more or less at the beginning*, but afterwards seems to operate chiefly by *urine and perspiration*.

Sublimate consists of mercury united with a large quantity of marine acid. There are two general methods of destroying its corrosive quality, and rendering it mild; combining with it so much fresh mercury as the acid is capable of taking up, and separating a part of the acid by means of alkaline salts, and the like. On the first principle, calomel is formed; on the latter, white precipitate.

SOLUTIO HYDRARGYRI MURIATI.

vulgo

SOLUTIO MERCURII CORROSIVI SUBLIMATI.

Solution of muriated quicksilver.

Take of

Muriated quicksilver, six grains;
Sal ammoniac, twelve grains;
Dissolve in a pound of distilled water;

If hard water be used for this purpose, the solution suffers a kind of decomposition, from the nitrous selenite of the water.

A solution of muriated quicksilver, and sal ammoniac, in a small proportion of water, used to be mixed with bread, starch, or wheat flower, and given in form of pills, and was considered a safe and pleasant way of administering this powerful medicine, as the disagreeable taste of the muriated quicksilver was avoided, and the quantity given at each dose could be accurately ascertained: plentiful dilution was also recommended, during the continuance of this exhibition. See the article PILLS, where will be found a particular formula.

This solution may be also used for washing venereal and other sores; and, where it is found too

acid for that purpose, it may be lowered by the addition of a little water.

CALOMELAS.

Lond.

HYDRARGYRUS MURIATUS MITIS.

Edinb.

formerly

MERCURIUS DULCIS SUB- LIMATUS.

Calomel.

Lond.

Take of

Muriated quicksilver, one
pound;

Purified quicksilver, nine
ounces;

Rub them together till the globules disappear, and sublime;—then rub all together again, and sublime; and in the same manner repeat the sublimation four times; afterwards, rub the matter to a fine powder, and wash it with boiling distilled water.

Edinb.

Take of

Muriated quick-silver, reduced
to powder in a glass mortar,
four ounces;

Pure quick-silver, three ounces
and an half;

Mix them well together, by long trituration, in a glass or marble mortar, until the quick-silver ceases to appear. Put the powder into an oblong phial, of such a size, that only one third of it may be filled; and sublime it from a sand heat. When the sublimation is finished, let the phial be broken, and the red powder about the bottom, and the white about the neck, both thrown away, but the remaining mass sublimed three or four times, and reduced into a very fine powder.

The trituration of corrosive sublimate with quick-silver is a very noxious operation. For it is almost

impossible, by any care, to prevent the lighter particles of the former from arising, so as to affect the operator's eyes and mouth. It is nevertheless of the utmost consequence, that the ingredients be perfectly united before the sublimation is begun. It is necessary to pulverise the sublimate, before the mercury is added to it; but this may be safely performed, with a little caution; especially if, during the pulverisation, the matter be now and then sprinkled with a little spirit of wine. This addition does not at all impede the union of the ingredients, or prejudice the sublimation: it will be convenient not to close the top of the subliming vessel with a cap of paper at first (as is usually practised), but to defer this till the mixture begins to sublime, that the spirit may escape.

The rationale of this process deserves particular attention; and the more so, as a mistaken theory herein has been productive of several errors with regard to the operation of mercurials in general. It is supposed, that the dulcification, as it is called, of the muriated quick-silver, is owing to the spicula or sharp points, on which its corrosiveness depends, being broken and worn off by the frequent sublimations. If this opinion were just, the muriated quick-silver would become mild, without any addition, barely by repeating the sublimation; but this is contrary to all experience. The abatement of the corrosive quality of the sublimate is entirely owing to the combination of so much fresh mercury with it, as is capable of being united; and by whatever means this combination is effected, the preparation will be sufficiently dulcified. Triture promotes the union of the two, whilst sublimation tends rather to disunite them. The prudent operator, therefore, will

not be solicitous about separating such mercurial globules as appear distinct after the first sublimation. He will endeavour rather to combine them with the rest, by repeating the triture and digestion.

The college of Wirtemberg require their *calomel* to be only twice sublimed; and the Augustan but once; and NEUMANN proposes making it directly, by a single sublimation, from the ingredients which the muriated quick-silver is prepared from, by only taking the quick-silver in a larger proportion. If the medicine, made after either of these methods, should prove in any degree acrid, water, boiled on it for some time, will dissolve and separate that part in which its acrimony consists. The marks of the preparation being sufficiently dulcified, are, its *being perfectly insipid to the taste*, and *indissoluble by long boiling in water*. Whether the water, in which it has been boiled, has taken up any part of it, may be known by dropping into the liquor a ley of any fixt alkaline salt, or any volatile alkaline spirit: if the decoction has any mercurial impregnation, it will grow turbid on this addition: if otherwise, it will continue limpid. But here care must be taken not to be deceived by an extraneous saline matter in the water itself; most of the common spring waters turn milky on the addition of alkalies; and therefore, for experiments of this kind, distilled water, or rain water, ought to be used.

Mercurius dulcis, seven times sublimed, has been commonly called *Calomelas*, and *Aquila alba*; names which are now dropt by the Edinburgh college. *Calomelas*, though yet retained by the London college, is indeed a very improper name for a white preparation, the word implying a black colour. By grinding mercurius dulcis with volatile spi-

rits, it becomes blackish, and this perhaps is the true calomel.

Calomel appears to be one of the most useful preparations of this mineral: it holds an intermediate place between the *hydrargyrus acetatus*, which is one of the mildest saline preparations, and *hydrargyrus muriatus*, one of the most acrid.

Calomel is considered as a good *stomachic*, *diaphoretic*, and *alterant*; is an efficacious medicine for *clearing the hepatic system*, either given alone, joined with antimonials, or with other of the cholagogues. Many of the more elaborate processes are no other than attempts to produce from mercury such a medicine as this really is. The dose, for *raising a salivation*, is ten or fifteen grains, taken in the form of a bolus or pills, every night or oftener, till the ptyalism begins. As an *alterant* and *diaphoretic*, it is given in doses of five or six grains; a purgative being occasionally interposed, to prevent its affecting the mouth. It answers, however, much better, when given in smaller quantities, as one, two, or three grains every morning and evening, in conjunction with such substances as determine its action to the skin, as the extract or resin of guaiacum; the patient at the same time keeping warm, and drinking liberally of warm diluent liquors. By this method of managing it, *obstinate cutaneous* and *venereal distempers* have been successfully cured, without any remarkable increase of the sensible evacuations.

HYDRARGYRUS MURIATUS MITIS.

Lond.

HYDRARGYRUS MURIATUS PRÆCIPITATUS.

Edinb.

Mild muriated quick-silver.

Lond.

Take of

Purified quicksilver,
Diluted nitrous acid,—of each
half a pound;

Mix them in a glass vessel, and
wait until the quicksilver is
dissolved. Then, in a boiling
heat, dissolve the nitrated quick-
silver, and pour it out immedi-
ately into a glass vessel, where
there is another boiling solution,
consisting of

Sea-salt, by weight, four ounces;
Distilled water, eight pints;

After the powder has subsided, let
the clear liquor which swims at
the top be poured off, and the
remaining powder washed with
hot water, until it becomes insi-
pid: then let it be dried on fil-
tering paper, with a gentle
heat.

Edinb.

Take of

Dilute nitrous acid, eight
ounces;

Quick-silver, eight ounces, and
a little more:

Pour these into a bolt-head, which
set by, loosely stopped, avoid-
ing the vapours. An hour after-
wards, set the vessel upon heated
sand, which heat must be gra-
dually increased for four hours,
until the mixture begins to boil
slightly for a quarter of an hour,
shaking in the mean time the ves-
sel very often. But it is neces-
sary that a little more quicksil-
ver should have been added than
this can dissolve, that the mixture
should be at least perfectly satu-
rated. Pour this mixture, whilst
warm, into eight pints of boiling
water, wherein four ounces and
an half of sea-salt has been dis-
solved, thoroughly and quickly
mixing them all together. After
the matter has subsided, pour off
the saline water, and wash the
nitrated quick-silver, by often
pouring upon it warm water, and

this repeated until it becomes
totally tasteless.

This is supposed to possess the
same virtues as calomel, and is ad-
ministered in similar doses; but
it certainly is somewhat a milder
preparation.

It has been supposed by some
that this medicine was a new in-
vention of SCHEELES, intended as a
cheap substitute for calomel, of
which there is this remark in the
last edition of the London Phar-
macopœia: "that it is equal, and
" similar in every respect to calomel,
" for the muriatic acid here is as
" perfectly saturated, and com-
" bined with the quick-silver, as
" in the more tedious and expen-
" sive process for the preparation
" of calomel."

PANACEA MERCURII.

Mercurial panacea.

Take any quantity of levigated
calomel, and four times as much
spirit of wine. Digest them to-
gether in a sand-heat for twenty
days, frequently shaking the ves-
sel; then pour off the spirit,
and dry the powder for use.

This preparation differs very lit-
tle, if at all, from the foregoing;
for, as LEMERY observes, the spi-
rit of wine does not dissolve any
part of the calomel. Some che-
mists have therefore recommended
a proof spirit, or common water,
as more suitable for this purpose
than rectified spirit. If any part in-
deed of the calomel remains not suf-
ficiently dulcified, this will be dis-
solved by boiling in water, and
consequently the preparation be-
comes milder; but if the calomel
be well made, even water will have
no effect upon it; the mercury and
spirit of salt being so closely united
to each other, as not to admit of
any separation by the means here
proposed. Nor indeed does good
mercurius dulcis want any of its
acid to be taken away, as being

already sufficiently safe and mild in its operation. The Edinburgh college, therefore, who received this preparation in former editions of their Pharmacopœia, have now rejected it.

CALX HYDRARGYRI ALBA,

formerly

MERCURIUS PRÆCIPITATUS ALBUS.

White calx of quick-silver.

Take of

Muriated quick-silver ;

Sal ammoniac ;

Water of prepared kali,—of each half a pound.

Dissolve first the sal ammoniac, and afterwards the muriated quick-silver, in distilled water, and then add the water of prepared kali; wash the precipitated powder till it becomes insipid.

This preparation is used chiefly in ointments, in which intention its fine white colour is no small recommendation to it. For internal purposes, it is rarely employed, nor is it at all wanted. It is nearly similar to mercurius dulcis, but less certain in its effects. Muriated quicksilver, as we have already seen, consists of mercury united with a large proportion of acid: it is there dulcified by adding as much fresh mercury as is sufficient to satiate all the acid; here, by separating all the acid that is not satiated. This last way seems an unfrugal one, on account not only of the loss of the acid, but of the volatile spirit necessary for absorbing it. The operator may, however, if it should be thought worth while, recover the volatile salt from the liquor, by adding to it, after the precipitate has been separated, a proper quantity of pot-ash, and distilling with a gentle heat, in the same manner as for the spirit or volatile salt of sal ammoniac; for a true sal ammoniac is regenerated, in the precipitation, from the union of the vola-

tile spirit with the muriatic acid of the sublimate. It is by no means advisable to use the liquor itself as a solution of sal ammoniac, or to separate the sal ammoniac from it by evaporation and crystallisation, as a part of the quicksilver might be retained, and communicate dangerous qualities: but the volatile salt separated by distillation may be used without fear of its containing any quicksilver, none of which will arise with the heat by which volatile salts are distilled.

Fixt alkalies answer as effectually, for precipitating solutions of sublimate, as the volatile. But the precipitate, obtained by means of the former, instead of being white as with the latter, is generally of a reddish yellow or orange colour. If sal ammoniac be dissolved along with the muriated quick-silver, the addition of fixt alkalies will now, extricating the volatile alkali of the sal ammoniac, occasion as white a precipitation, as if the volatile alkali had been previously separated and employed in its pure state.

The sal ammoniac, besides its use in the capital intention to make a white precipitation, promotes the solution of the sublimate, which, of itself, is difficultly, and scarce at all totally soluble by repeated boiling in water. For, however skilfully it is prepared, some part of it will have an underproportion of acid, and consequently approach to the state of calomel. A good deal of care is requisite in the precipitation. For, if too large a quantity of the fixt alkaline solution be imprudently added, the precipitate will lose the elegant white colour for which it is valued.

This calx is sometimes adulterated with ceruss, which ceruss will be left upon burning the sophisticated compound, as formerly mentioned when speaking of the adul-

teration of *hydrargyrus nitratus ruber*, with *minium*.

HYDRARGYRUS VITRIOLATUS.

Lond. Edinb.

formerly

MERCURIUS EMETICUS FLAVUS.

Lond.

TURPETHUM MINERALE.

Edinb.

Vitriolated quicksilver.

Lond.

Take of

Purified quicksilver, one pound;

Vitriolic acid, fifteen ounces;

Mix them in a glass vessel, and heat by degrees, until they unite. Let the whole be thoroughly dried, with a strong fire; and then pour upon it a large portion of hot distilled water. This mass immediately grows yellow, and falls to powder. Then suffer it to settle, pour off the water, and wash the powder in several parcels of fresh water, until it becomes insipid.

Edinb.

Take of

Quick-silver, four ounces;

Vitriolic acid, eight ounces:

Let them be put into a retort, and distilled from a sand bath to dryness; the white calx left at the bottom, be powdered, and thrown into warm water. It will immediately become of a yellow colour, which it is necessary to purify by frequent ablutions.

The quantity of oil of vitriol, formerly directed, was double to that now employed by the Edinburgh college. The reduction now made in this article greatly facilitates the process.

BOERHAAVE directs this preparation to be made in an open glass, slowly heated, and then placed immediately upon burning coals; care being taken to avoid the fumes,

which are extremely noxious. This method will succeed very well, with a little address, when the ingredients are in small quantity: but where the mixture is large, it is better to use a retort, placed in a sand-furnace, with a recipient, containing a small quantity of water, luted to it. Great care should be taken, when the oil of vitriol begins to bubble, to steadily keep up the heat, without at all increasing it, till the ebullition ceases, when the fire should be augmented to the utmost degree, that as much as possible of the redundant acid may be expelled.

If the matter be but barely efficated, it proves a caustic salt, which in the ablution with water will almost all dissolve, leaving only a little quantity of vitriolated quicksilver: the more of the acid has been dissipated, the less of the remaining quick-silver will dissolve, and consequently the yield of vitriolated quick-silver will be the greater; fire expelling only the acid (viz. such part of the acid as is not completely satiated with mercury) while water takes up always, along with the acid, a proportionable quantity of the mercury itself.—Even when the matter has been strongly calcined, a part will still be soluble: this evidently appears upon pouring into the washings a little solution of fixt alkaline salt, which will throw down a considerable quantity of yellow precipitate, greatly resembling the turpeth, except that it is less violent in operation.

From this experiment, it appears, that the best method of edulcorating this powder is, by impregnating the water, intended to be used in its ablution, with a determined proportion of fixt alkaline salt: for by these means, the washed turpeth will not only turn out greater in quantity, but, what is of more

- consequence, always have an equal degree of strength; a circumstance which deserves particularly to be considered, especially in making such preparations as, from an error in the process, may prove too violently corrosive to be used with any tolerable degree of safety.

It is necessary to employ warm water, if we are anxious for a fine colour: if cold water be used, the precipitate will be white.

It is observable, that though the superfluous acid is here absorbed from the mercury by the alkaline salt; yet in some circumstances this acid forsakes that salt to unite with mercury. If a combination of vitriolic acid with fixt alkali be dissolved in water, and the solution added to a solution of mercury in aquafortis; the vitriolic acid will unite with the mercury, and form with it a turpeth, which falls to the bottom; leaving only the alkali dissolved in the aquafortis, and united with the acid thereof into a regenerated nitre. On this principle depends the preparation described by WILSON, under the title of *An excellent precipitate of mercury*; which is no other than a true turpeth, though not generally known to be such. It is made by dissolving four ounces of kali vitriolatum in sixteen ounces of spirit of nitre; dissolving in this compound liquor four ounces of mercury; abstracting the menstruum in a sand-heat; and edulcorating with water the gold-coloured mass which remains.

Vitriolated quicksilver is a *strong emetic*, and in this intention operates the most powerfully of all the mercurials that can be safely given internally. Its action however is not confined to the primæ viæ; it will sometimes *excite a ptyalism*, if a purgative be not taken soon after it. This medicine is used

chiefly in *virulent gonorrhœas*, and other *venereal cases*, where there is a great flux of humours to the parts: it is said likewise to have been employed with success, in robust constitutions, *against leprous disorders*, and *obstinate glandular obstructions*: the dose is from two grains to six or eight. It may be given in doses of a grain or two as an *alterative* and *diaphoretic* after the same manner as the *hydrargyrum calcinatus*.

Dr. HORE has found the vitriolated quick-silver is the most convenient errhine he has had occasion to employ.

This medicine has been recommended as the most effectual *preservative against the hydrophobia*. There are several examples of its preventing madness in dogs that had been bitten; and some, of its performing a cure after the madness was begun. From six or seven grains to a scruple may be given every day, or every other day, for a little time, and repeated at the two or three succeeding fulls and changes of the moon. Some few trials have likewise been made on human subjects, bitten by mad dogs; and in these also vitriolated quick-silver, used either as an emetic or alterative, seemed to have good effects. See James's Treatise on Canine Madnefs.

The washings of vitriolated quick-silver are used by some externally, for the *itch* and other *cutaneous foulnesses*. In some cases mercurial lotions may be proper, but they are always to be used with great caution. This is by no means an eligible one, as being extremely unequal in point of strength; more or less of the mercury being dissolved, as observed above, according to the degree of calcination.—The Pharmacopœia of Paris directs a mercurial wash free from this in-

convenience, under the title of *Aqua mercurialis*, or *Mercurius liquidus*. It is composed of one ounce of mercury, dissolved in a sufficient quantity of nitrous acid, and diluted with thirty ounces of distilled water. In want of distilled water, rain water may be used; but of spring waters there are very few which will mix with the mercurial solution, without growing turbid and precipitating a part of the mercury.

Besides the preparations here mentioned, there are a variety of others, which may be seen in the Preparations of Quicksilver, arranged according to BERGMAN'S Table of Elective Attractions; and in the following one, taken from Dr. SCHWEDIAUR'S Treatise on the Venereal Disease; of which those marked with the asterisk are chiefly in use.

TABULA exhibens diversa ex HYDRARGYRO PRÆPARATA et COMPOSITA, hactenus cognita †.

I. HYDRARGYRUM SIMPLICITER PURIFICATUM.

* Hydrargyrum purificatum.

Angl. *Quick-silver, crude purified mercury*; Germ. *Reines quecksilber*. Gal. *Mercur pure*.

Syn. *Mercurius crudus purificatus officinarum*.

Argentum vivum purificatum.

II. PRÆPARATA IN QUIBUS HYDRARGYRUM SOLUMMODO DIVISUM ESSE VIDETUR.

1. Decoctum Hydrargyri, i. e. Hydrargyrum simpliciter in aqua coctum.

2. Extracto Glycyrrhizæ subactum.

3. Gummi aut mucilagine, e. g. Gummi Arabico, Tragacanthæ, &c.

* Hydrargyrum gummosum.

Syn. *Mercurius gummosus, inventore Plenck*.

COMPOSITA.

* α *Pilulæ ex hydrargyro gummofo*.

Syn. *Pilulæ ex mercurio gummofo. Plenck, Pharm. Chir.*

† Literæ, quibus præparata et composita notantur, significant: O. *Officinarum*; L. *Pharmacopœia Londinensis*; S. *Pharm. Suecica*; D. *Pharm. Danica*; E. *Pharm. Edinburgensis*; B. *Dispensatorium novum Brunswicense*; E. *paup. Pharm. Edinburgensis Pauperum*; T. *Pharm. Nosocomii Sti. Thomæ Londinensis*; G. *Pharm. Nosocomii Sti. Georgii Londinensis*.

β Solutio mercurialis gummosa. *Ibid.*

Syn. Mixtura mercurialis. *G.*

γ Potio mercurialis. *B.*

δ Lac mercuriale. *Plenck.*

4. Resina aut Balsamo; e. g. Terebinthina, Balsamo Copaivæ, &c.
* Hydrargyrum terebinthinatum, &c.

COMPOSITA.

- * Pilulæ ex hydrargyro terebinthinato.

Pilulæ mercuriales. *L.*

Pilulæ mercuriales laxantes. *G.*

Pilulæ mercuriales sialagogæ. *D.*

Injectio mercurialis. *E. Paup.*

5. Pinguedine animali aut oleis unguinosis; e. g. Axungia porcina, anserina; butyro Cacao.

- * Hydrargyrum unguinosum.

- * Unguentum hydrargyri. Vid. infra *Hydrargyrum Sebinum.*

Syn. Unguentum ex hydrargyro cœruleum. *E.*

Unguentum mercuriale, seu unguentum Neapolitanum.

COMPOSITA.

α Unguentum cœruleum fortius. *L.*

Unguentum cœruleum mitius. *L.*

Unguentum mercuriale. *D.*

β Ceratum mercuriale. *L.*

γ Emplastrum mercuriale. *O.*

Emplastrum ex hydrargyro. *E.*

Emplastrum ex gummi ammoniaco cum mercurio. *L.*

Emplastrum commune cum mercurio. *L.*

Emplastrum de ranis cum mercurio.

6. Terra Calcareæ; e. g. Creta, Lapidibus aut Chelis Cancrorum, &c.

Mercurius alkalifatus. *E.*

Pulvis mercurialis. *G.*

III. PRÆPARATA IN QUIBUS HYDRARGYRUM, MEDIANTE IGNE ET LIBERO AERIS ACCESSU, IN CALCEM VERTITUR.

- * Hydrargyrum calcinatum.

Syn. Mercurius calcinatus. *L. S.*

Mercurius præcipitatus per se. *L.*

COMPOSITA.

- * Pilulæ ex hydrargyro calcinato.

Pilulæ syphiliticæ. *T.*

Pilulæ ex mercurio calcinato. *G.*

Pilulæ ex mercurio calcinato anodynæ. *G.*

IV. PRÆPARATA IN QUIBUS HYDRARGYRUM PARTIM DIVISUM, PARTIM SOLUTUM ESSE, VIDETUR.

1. Saccharo, Manna, Conserva Rosarum, Cynosbati, &c.
- * Saccharum hydrargyratum.

COMPOSITA.

- * Trochisci ex hydrargyro saccharato.
- Bolus cæruleus. *T.*
- Bolus mercurialis. *G.*
- Syrupus Hydrargyri. *S.*
- * Mel hydrargyratum.

COMPOSITA.

- Pilulæ Æthiopicæ. *E.*
- Pilulæ mercuriales purgantes. *E. paup.*
- Pilulæ Bellosti.

3. Sulphure purificato.

- * Hydrargyrum sulphuratum.
- a Trituratione aut fusione.
- * Hydrargyrum sulphuratum nigrum.
- Æthiops mineralis. *O.*

COMPOSITA.

- Pulvis Æthiopicus. *G.*

b Sublimatione.

- * Hydrargyrum sulphuratum rubrum.
- Cinnabaris factitia, seu artificialis. *O.*

COMPOSITA.

- Pulvis antilyssus Sinensis. *O.*

c Præcipitatione. Vid. infra *Hydrargyrum vitriolatum.*

4. Sulphure Antimonii.

- a Trituratione.
- * Sulphur antimonii hydrargyratum.
- Æthiops antimonialis. *O.*

COMPOSITA.

- Pilulæ Æthiopicæ. *E. D.*

b Sublimatione.

- Sulphur antimonii hydrargyratum rubrum.
- Syn.* Cinnabaris antimonii. *O.*

COMPOSITA.

- Bolus Cinnabarinus. *G.*

V. PRÆPARATA IN QUIBUS HYDRARGYRUM MEDIANTE ACIDO IN FORMAM SALIS AUT CALCIS MUTATUM EST.

1. Acido Sebi. 2. Acido Muriatico. 3. Acido Sacchari. 4. Acido Succini. 5. Acido Arsenici. 6. Acido Acetosellæ. 7. Acido Phosphori. 8. Acido Vitrioli. 9. Acido Sacchari Lactis. 10. Acido Tartari. 11. Acido Citri. 12. Acido Nitri. 13. Acido Fluoris mineralis. 14. Acido Aceti. 15. Acido Boracis. 16.

Acido Cœrulei Berolinensis. 17. Acido Molybdænae. 18. Acido Tungstenico. 19. Acido aëreo.

I. *Hydrargyrum cum acido sebi combinatum.*

Hydrargyrum sebinum.

* *Præp.* Unguentum hydrargyri.

II. *Cum acido muriatico.*

* Hydrargyrum muriatum.

* *Hydrargyrum muriatum fortius.*

A. Sublimatione.

* Hydrargyrum muriatum fortius sublimatum.

Syn. Mercurius sublimatus corrosivus.

Mercurius sublimatus albus. O.

Mercurius cum sale ammoniaco sublimatus.

B. Præcipitatione.

Ex acido nitri, mediante acido muriatico dephlogificato, inventore *Bertholet.*

Hydrargyrum muriatum fortius præcipitatum.

COMPOSITA.

α Solutio sublimati spirituosa (*Van Swieten*).

Syn. Solutio mercurii sublimati corrosivi. E.

Mixtura mercurialis. S.

Mercurius sublimatus solutus. G.

β * Solutio hydrargyri muriati fortioris aquosa.

Pilulæ e mercurio corrosivo albo. S.

Dr. Ward's white drop.

Syrup du Cuifnier.

γ * Lotio syphilitica flava, s. lotio ex hydrargyro muriato fortiori.

Syn. Aqua phagedænica. O.

Liquor mercurialis. A.

Lotio mercurialis. T.

δ Solutio sublimati balsamica. *Plenck.*

ε * Liquor ad condylomata.

Syn. Aqua caustica pro condylomatibus. *Plenck.*

* *Hydrargyrum muriatum mitius*; i. e. acidum muriaticum hydrargyro supersaturatum.

A. Sublimatione.

Syn. Mercurius dulcis (sublimatione paratus). O.

Mercurius dulcis sublimatus. L.

Calomel seu calomelas. L.

Aquila alba.

Panacea mercurialis.

Mercurius dulcis lunaris. *Schroeder.*

B. Præcipitatione.

Ex acido nitroso, mediante sale communi, inventore *Scheele.*

* Hydrargyrum muriatum mitius præcipitatum.

Mercurius præcipitatus dulcis.

Calx hydrargyri muriata præcipitata.

α Ex acido muriatico, mediante alkali vegetabili.

Mercurius præcipitatus albus. L.

- b Ex acido muriatico mediante alkali minerali.
Mercurius præcipitatus albus. *A.*
- c Ex acido muriatico mediante alkali volatili.
Mercurius præcipitatus albus. *E.*
- d Ex acido muriatico mediante cupro.
Mercurius præcipitatus viridis. *E.*

COMPOSITA.

- Bolus mercurialis. *E.*
- Bolus jalappæ cum mercurio. *Ib.*
- Bolus rhei cum mercurio. *Ib.*
- Pilulæ calomelanos. *G.*
- Pilulæ Plummeri. *E.*
- Pilulæ alterantes Plummeri. *O.*
- Pilula depurans. *T.*
- Pulvis Plummeri. *O.*
- Pilulæ mercuriales purgantes. *A.*
- Pilulæ catarrhales purgantes. *D.*
- Pilulæ laxantes cum mercurio. *Ib.*
- Pulvis e scammonio cum mercurio. *T.*
- * Lotio syphilitica nigra, lotio ex hydrargyro muriato mitiori.
Syn. Lotio mercurialis. *G.*
- Unguentum e mercurio præcipitato. *L.*
- Linimentum mercuriale. *E. Pamp.*

III. Cum acido sacchari.

- a Hydrargyrum saccharatum. *Bergman.*
- * b Saccharum hydrargyratum, seu
Hydrargyrum saccharo cando subactum.

IV. Cum acido succini.

Hydrargyrum succinatum. *Bergman.*

V. Cum acido arsenici.

Hydrargyrum arsenicatum. *Bergman.*

VI. Cum acido oxalis acetosellæ.

Hydrargyrum oxalinum. *Bergman.*

VII. Cum acido phosphorico.

Hydrargyrum phosphoratum. *Bergman.*

Præcipitatione ex acido nitroso mediante urina recenti.

Rosa mineralis. *O.*

VIII. Cum acido vitriolico.

- * a Hydrargyrum vitriolatum.

Vitriolum mercurii. *O.*

Oleum mercurii. *O.*

- b Hydrargyrum vitriolatum flavum.

Turpethum minerale. *O.*

Mercurius emeticus flavus. *L.*

Mercurius flavus. *E.*

Mercurius præcipitatus luteus. *D.*

Turpethum nigrum. *O.*

c Hydrargyrum præcipitatum ex acido nitroso mediante hepate sulphuris aut calcis.

Mercurius præcipitatus niger. *O.*

IX. *Cum acido sacchari lactis.*

X. *Cum acido tartari.*

a Hydrargyrum tartarifatum. *Bergman.*

* b Tartarus hydrargyratus; i. e. hydrargyrum cum tartaro purificato unitum. *Terre feuilletée mercurielle*, inventore *Pressavin.*

c Præcipitatione ex acido nitroso mediante acido tartari.

* Hydrargyrum tartarifatum flavum; vulgo, *Pulvis Constantinus.*

d Præcipitatione ex acido muriatico et acido tartari junctis mediante alkali vegetabili.

* Hydrargyrum tartarifatum album; vulgo, *Pulvis argenteus.*

XI. *Cum acido citri.*

Hydrargyrum citratum. *Bergman.*

XII. *Cum acido nitroso.*

* Hydrargyrum nitratum.

a Calcinatum mediante igne.

* Hydrargyrum nitratum rubrum.

Mercurius corrosivus ruber. *L. E.*

Mercurius præcipitatus ruber.

Pulvis principis. *O.*

Mercurius corallinus. *L.*

Mercurius tricolor. *O.*

Panacea mercurii. *O.*

Arcanum corallinum.

Panacea mercurii rubra. *O.*

COMPOSITA.

Balsamus mercurialis. *Plenck.*

Unguentum ophthalmicum. *St. Ives.*

Balsamum ophthalmicum rubrum. *D.*

Unguentum præcipitatum. *G.*

Unguentum ad lippitudinem. *T.*

Unguentum mercuriale rubrum. *D.*

Unguentum pomatum rubrum. *D.*

* b Acidum nitri hydrargyrum; i. e. hydrargyrum in acido nitroso solutum.

Solutio mercurii. *E.*

COMPOSITA.

Unguentum citrinum. *E. S.*

* c Præcipitatione.

Ex acido nitri mediante alkali volatili.

α Hydrargyrum nitratum cinereum.

Pulvis mercurii cinereus. *E.*

Turpethum album. *O.*

β Ex acido nitroso mediante alkali volatili vinoso (spiritu salis ammoniaci vinoso).

Turpethum nigrum.

Mercurius præcipitatus niger.

γ Ex acido nitroso mediante alkali vegetabili.

Mercurius præcipitatus fuscus, inventore *Würtz.*

δ Ex acido nitroso mediante cupro.

Mercurius præcipitatus viridis. *B.*

XIII. *Cum acido fluoris mineralis.*

Hydrargyrum fluoratum. *Bergman.*

XIV. *Cum acido aceti.*

* Hydrargyrum acetatum. *Bergman.*

COMPOSITA.

Trochisci, *S. pilulæ Keyseri.*

XV. *Cum acido boracis.*

Hydrargyrum boraxatum. *Bergman.*

XVI. *Cum acido cærulei Berolinensis.*

XVII. *Cum acido molybdæneæ.*

XVIII. *Cum acido tungstenico.*

XIX. *Cum acido aëreo.*

Hydrargyrum aëratum. *Bergman.*

SECT. VIII.

PREPARATIONS OF ANTIMONY.

ANTIMONY is composed of a metal, united with sulphur or common brimstone.

If powdered antimony be exposed to a gentle fire, the sulphur exhales; the metallic part remaining in form of a white calx, reducible, by proper fluxes, into a whitish brittle metal, called *regulus*. This is readily

distinguished from the other bodies of that class, by its not being soluble in *aqua fortis*. Its proper menstruum is *aqua regia*.

If *aqua regia* be poured upon crude antimony, the metallic part will be dissolved; and the sulphur thrown out, partly to the sides of the vessel, and partly to the surface of the liquor, in form

of a greyish yellow substance. This, separated and purified by sublimation, appears on all trials the same with pure common brimstone.

The metal, freed from the sulphur naturally blended with it, and afterwards fused with common brimstone, resumes the appearance and qualities of crude antimony.

The antimonial metal is a medicine of the greatest power of any known substance. A quantity too minute to be sensible on the tenderest balance, is capable of producing virulent effects, if taken dissolved or in a soluble state. If given in such a form as to be immediately miscible with the animal fluids, it *proves violently emetic*; if so managed as to be more slowly acted on, *cathartic*; and in either case, if the dose be extremely small, *diaphoretic*. Thus, though vegetable acids extract so little from this metal, that the remainder seems to have lost nothing of its weight, the tinctures prove, in no large doses, *strongly emetic*, and in smaller ones *powerfully diaphoretic*. The regulus has been cast into the form of pills, which acted as *virulent cathartics*, though without suffering any sensible diminution of weight in their passage through the body; and this repeatedly, for a great number of times.

This metal, divested of the inflammable principle which it has in common with other metallic bodies that are reduced to a calx, becomes indissoluble and inactive. The calx nevertheless, urged with a strong fire, melts into a glass, as easy of solution, and as virulent in operation, as the regulus itself. The glass, thoroughly mingled with such substances as prevent its solubility, as wax, resins, and the like, is again rendered mild.

Vegetable acids, as already ob-

served, dissolve but an extremely minute portion of this metal. The solution nevertheless *proves powerfully emetic and cathartic*. The nitrous and vitriolic acids only corrode it into a powder, to which they adhere so slightly as to be separable in good measure by water, and totally by fire, leaving the regulus in form of a calx similar to that prepared by fire alone. The muriatic acid has a very different effect. This reduces the regulus into a violent corrosive, and though it difficultly unites with, yet very closely adheres to it, inasmuch as not to be separable by any ablu-tion, nor by fire, the regulus arising along with it. The nitrous or vitriolic acids expel the marine, and thus reduce the corrosive into a calx similar to the foregoing.

Sulphur remarkably abates the power of this metal: and hence crude antimony (in which the regulus appears to be combined with from one fourth to one half its weight of sulphur) proves altogether mild. If a part of the sulphur be taken away, by such operations as do not destroy or calcine the metal, the remaining mass becomes proportionably more active.

The sulphur of antimony may be expelled by deflagration with nitre. The larger the quantity of nitre, to a certain point, the more of the sulphur will be dissipated, and the preparation will be the more active. If the quantity of nitre be more than sufficient to consume the sulphur, the rest of it, deflagrating with the inflammable principle of the regulus itself, renders it again mild.

The sulphur of antimony is likewise absorbed, in fusion, by certain metals, and by alkaline salts. These last, when united with sulphur, prove a menstruum for all the metals (zinc excepted), and hence, if the fusion be long continued, the

regulus is taken up, and rendered soluble in water.

PULVIS ANTIMONIALIS.

Lond.

ANTIMONIUM CALCAREO-PHOSPHORATUM.

Edinb.

Antimonial powder.

Lond. and Edinb.

Take of

Antimony, coarsely powdered;
Hartshorn shavings (or those of bone or ivory, *Edinb.*)—of each two pounds.

Mix, and put them into a broad iron pot, heated to a white (*red, Edinb.*) heat, constantly stirring, till the mass acquires a greyish colour. Powder it when cold, and put it into a coated crucible. Lute to it another crucible, with a small hole in the bottom, inverted; raise the fire by degrees again to a white heat, and keep it so for two hours. When cold, reduce it to a very fine powder.

In this preparation the calx of antimony is united with that part of the hartshorn, bone, or ivory shavings, which cannot be destroyed by fire, *its absorbent earth.*

This may be considered as a very good substitute for JAMES's powder, which, though, appears both milder and more uniform in its operation. For JAMES's powder may be given sometimes in as large a dose as sixteen grains; yet few practitioners will prescribe more than six grains the *antimonial powder* for a dose.

"May not," says the translator of the London Pharmacopœia, "different quantities of sulphur in equal weights of the crude mineral, employed in making the *pulvis antimonialis*, vary its power as a medicine?"

This powder, properly prepared, is of a white colour. It is a mild antimonial preparation, and may be given as an alterant from three

to six grains for a dose. It sometimes, however, vomits in this quantity; in larger, it proves emetic, and operates by the intestines.

CROCUS ANTIMONII MEDICINALIS.

Medicinal crocus of antimony.

Take of

Antimony, eight parts;

Nitre, one part.

Mix, and throw them, by little at a time, into a red-hot crucible; when the deflagration ceases, take the crucible out of the fire, and reduce the matter into powder.

This preparation is sufficiently mild, though considerably more active than the crude mineral: eighteen or twenty grains will in some constitutions operate, though very gently, both upwards and downwards. It appears to be nearly similar to the *medicinal regulus* hereafter described.

In this and the following processes with nitre, the operator must observe to throw into the crucible only a little of the matter at a time, and to wait till the deflagration of one parcel is over before another is added; for if much were put in at once, the deflagration would be so violent, that great part of the matter would be thrown over the crucible. The powder is most conveniently introduced by means of a small iron ladle. Care must be taken not to bring back with the ladle any spark of coal, which would set fire to the rest of the mixture.

CROCUS ANTIMONII MITIOR.

The milder crocus of antimony.

Take of

Antimony, two parts;

Nitre, one part.

Mix them together, and throw the powder by degrees into a red-hot crucible. As soon as the deflagration ceases, remove the matter from the fire (without suffer-

ing it to melt) and reduce it into powder.

This preparation is called *mitior*, not in regard to the crocus above described, but to that which follows. It acts much more powerfully than the foregoing; the increase of the nitre occasioning a greater quantity of the sulphur of the antimony to be dissipated. The London committee received it in their first draught, with the character of an antimonial of mild operation, which had proved a successful medicine in numerous instances, without any one example of its being unsafe. Some trials, however, afterwards reported to them, where the operation of this and the following crocus were compared, induced them to lay this preparation aside. It appears to differ from the other only in being less violent.

CROCUS ANTIMONII.

Crocus of antimony, commonly called Crocus metallorum, and by foreign writers, Hepar antimonii, or Liver of antimony.

Lond.

Take of

Sea salt, one ounce;
Antimony, powdered,
Nitre, powdered, — of each, one pound.

Mix and inject them by degrees into a crucible heated to a white heat, and raise the heat until the mixture melts. Pour it out, and when cold, separate the scorice.

Edinb.

The mixture of antimony and nitre, made as above, is to be injected into a red-hot crucible.

When the detonation is over, separate the reddish, metallic matter from the whitish crust, powder and edulcorate it by repeated washings with hot water, until it becomes insipid.

Here the antimonial sulphur is almost totally consumed, and the

metallic part left divested of its corrector. These preparations, given from two to six grains, act as violent emetics, greatly disordering the constitution. But here it may be observed, that the operation of antimony, whose reguline part is not joined with an acid, must be liable to variations, according to the quantity and condition of the acid in the stomach. Their principal use is in maniacal cases; as the basis of some other preparations; and among the farriers, who frequently give to horses an ounce or two a day, divided into different doses, as an alterative. In these and other quadrupeds, this medicine acts chiefly as a diaphoretic.

The chemists have been accustomed to make the crocus with a less proportion of nitre than directed above; and without any further melting, than what ensues from the heat that the matter acquires by deflagration, which, when the quantity is large, is very considerable. A little common salt is added to promote the fusion. The mixture is put by degrees into an iron pot, or mortar, somewhat heated, and placed under a chimney. When the first ladle-full is in, a piece of lighted charcoal is thrown to it, which sets the matter on fire. The rest of the mixture is then added by little and little; the deflagration is soon over, and the whole appears in perfect fusion. When cold, a considerable quantity of scorice are found upon the surface; which scorice are easily knocked off with a hammer. The acid of the sea salt added to the process of the London Pharmacopœia considerably promotes the fusion; and its acid, it is said, may very much increase the activity of the crocus as a medicine.

CROCUS ANTIMONII LOTUS.

Washed crocus of antimony.

Reduce the crocus into a very sub-

tile powder, and boil it in water. Then, throwing away this water, wash the powder several times in fresh warm water, until it becomes perfectly insipid.

This process is designed chiefly to fit the crocus for the preparation of tartarised antimony, and of the antimonial emetic wine. If the crocus were employed for those purposes without washing, the alkaline salt, with which it is in some degree impregnated from the deflagration of the nitre, would in part satiate the acids of the tartar and of the wine; and thus, impeding their action on the metallic part of the antimony, render the medicines very precarious in strength. That uncertainties of this kind may be the more effectually guarded against, the glass, or rather the pure regulus of antimony, is by some preferred to the crocus, both for the emetic tartar and wine. The Edinburgh college, as appears in the foregoing process, does not allow the crocus to be kept in its unwashed state; making the ablution a part of the preparation of it.

EMETICUM MITE ANTIMONII.

A mild antimonial emetic.

Take of

Antimony, one part;

Nitre, two parts.

Grind them together, and throw them by little and little into a red-hot crucible. When the deflagration is over, the remaining matter, which proves white, is to be washed for use.

The quantity of nitre is here so large, as to consume not only the sulphur of the antimony, but likewise great part of the inflammable principle of the regulus. BOERHAAVE, from whom this preparation is taken, informs us, that it is so mild, as often to occasion only some light nausea and gentle vomiting, with a large discharge of

saliva, and thick urine. Its effects seem to be nearly the same with those of the *regulus medicinalis* and *crocus medicinalis*.

ANTIMONIUM CALCINATUM;

formerly

CALX ANTIMONII.

Calcined antimony.

Lond.

Take of

Antimony, powdered, eight ounces;

Nitre, powdered, two pounds.

Mix them, and let them be gradually injected into a crucible, heated to a white heat; burn the white matter about half an hour; and when cold, powder it, and wash it with distilled water.

ANTIMONIUM USTUM cum NITRO;

vulgo

CALX ANTIMONII NITRATA.

Antimony calcined with nitre.

Edinb.

Take of

Antimony, calcined as for making the glass,

Nitre,—of each, equal parts.

Mix them together, and put them into a crucible; keep it in a red heat for an hour; afterwards take it out of the crucible, powder it, and wash it often in hot water till it becomes insipid.

The antimonium calcinatum, when freed by washing from the saline matter, is extremely mild, if not altogether inactive. HOFFMAN, LEMERY, and others, assure us, that they have never experienced from it any such effects as its usual title imports. BOERHAAVE declares, that it is a mere metallic earth, entirely destitute of all medicinal virtue. The common dose is from five grains to a scruple, or half a dram; though WILSON relates, that he has known it given

by half ounces, and repeated two or three times a day, for several days together.

Some report, that this calx, by being kept for a length of time, contracts an emetic quality. Whence it has been concluded, that the powers of the reguline part are not entirely destroyed; that the preparation has the virtues of other antimonials which are given as alteratives, that is, in such small doses as not to stimulate the primæ viæ; and that, therefore, calcined antimony, as it is certainly among the mildest preparations of that mineral, may be used for children, and such delicate constitutions where the stomach and intestines are easily affected. The observation, however, from which these conclusions are drawn, does not appear to be well founded. LUPOVICI relates, that after keeping the powder for four years, it proved as mild as at first: and the Strasburgh Pharmacopœia, with good reason, suspects, that where the calx has proved emetic, it had either been given in such cases, as would of themselves have been attended with this symptom (for the great alexipharmic virtues, attributed to it, have occasioned it to be exhibited even in the more dangerous malignant fevers, and other disorders, which are frequently accompanied with vomiting), or that it had not been sufficiently calcined, or perfectly freed from such part of the regulus as might remain uncalcined. The uncalcined part being grosser than the true calx, the separation is effected by washing over with water, in the same manner as is already directed for separating earthy powders from their grosser parts.

It has been observed, that when calcined antimony is prepared with nitre abounding with sea salt, of which all the common nitre con-

tains some portion, the medicine has proved *violently emetic*. This effect is not owing to any particular quality of the sea salt, but to its quantity, by which the proportion of the nitre to the antimony is rendered less.

The *nitrum stibiatum* is produced by the deflagration of the sulphur of the antimony with the nitre, in the same manner as the *sal polychrest*, from which it differs no otherwise than in retaining some portion of the antimonial calx.

In the remark upon calcined antimony, in the London Pharmacopœia, it is there said, "That it is indeed one of the mildest antimonials: but if it be true, that it proves emetic after long exposure to the air; and that by means of the black flux a regulus may be obtained from it, some effect may be presumed." The translator, Dr. HEALDE, hopes to be excused, if he says, that he prepared the calx *lota* himself, in the year 1741; that he has ever since used it, a space of above forty years, often designedly to excite nausea—and continues deceived, if, when genuine, it is an inefficacious medicine. It is generally given in small doses, from ten grains to a scruple, to promote a diaphoresis.

The second preparation, or the antimoniumustum cum nitro, is certainly a medicine of much more activity than the former; and instead of being one of the mildest of the antimonials, it often operates with great violence, when given in doses of a few grains only. This is supposed to be nearly the same with Dr. JAMES's fever powder (though some difference is allowed), notwithstanding their effects have, from observation, been proved nearly the same.

Some practitioners have given the preference to the use of this

preparation to that of the *antimonium tartarifatum*, when long continued nausea was required, and purging intended. But like every other antimonial preparation, where the reguline part is only rendered active by the acid in the stomach, the antimoniumustum is in all cases of uncertain operation, sometimes proving perfectly inert, and at other times very violent in its effects. Its dose is generally from ten to twelve grains; and this is often given all at once (air inconvenience not attending tartarified antimony); the quantity and effects of which we can generally measure with surprising minuteness.

CERUSSA ANTIMONII.

Ceruss of antimony.

Take of

Regulus of antimony, one part;
Nitre, three parts.

Deslagrate them together, as in the foregoing process.

The results of both processes appear to be altogether the same. It is not necessary to use so much nitre here, as when antimony itself is employed; for the sulphur which the crude mineral contains, and which requires for its dissipation nearly an equal weight of nitre to the antimony, is here already separated. Two parts of nitre to one of the regulus are sufficient. It is better, however, to have an over proportion of nitre than an under one, lest some parts of the regulus should escape being sufficiently calcined.

It may be proper to observe, that though crude antimony and the regulus yield the same calces, yet the salts separated in washing the calces are very different. As crude antimony contains common sulphur, the acid of the sulphur unites with the alkaline basis of the nitre, and the result is a neutral salt. As the regulus contains the phlogistic or

inflammable principle, but no sulphur, the nitre is alkalised, as it would be by charcoal or similar inflammable bodies, and is at the same time rendered more acrimonious than the common alkaline salts. If only equal parts of the regulus and nitre be employed, and the fire kept up strong for an hour or more, the salt will prove more caustic than even the potential caustery. But the causticity of the salt will still be far greater, if, instead of the simple regulus of antimony, the martial regulus be used.

REGULUS ANTIMONII MEDICINALIS.

Medicinal regulus of antimony.

Take of

Antimony, five ounces;
Sea salt, four ounces;
Prepared kali, one ounce.

Grind them into powder, and throw the mixture, by little at a time, into a red-hot crucible; occasionally breaking, with an iron rod, the crust that forms on the surface. When the fusion is completed, pour out the matter into a heated cone, gently shaking it now and then, or striking it on the sides, that the regulus may settle to the bottom. When grown cold, beat off the scoriae, and grind the regulus into a powder, which is to be kept in a close-stopped vial.

This medicine is nearly similar in quality to one made with one-eighth of nitre, already described: in both processes, the antimony is freed from a small portion of its sulphur, which is dissipated in flame by the nitre, and absorbed by the alkaline salt. This preparation is greatly celebrated by HOFFMAN, and other German physicians, in sundry obstinate chronic disorders, and esteemed one of the best antimonials that can be given with safety as *alterants*. It operates chiefly as a *diaphoretic*, and

sometimes, though rarely, *proves emetic*. The dose is from three or four grains to twenty.

This regulus, reduced to a subtile powder, is the genuine FEBRIFUGE POWDER of Craanius (*Pharm. Boruffo-Brandenburg*, edit. 1734, page 107.) and has been greatly commended in all kinds of fevers, both of the intermittent and continual kind (*Pharm. Argent.* 1725, page 252.) It is said that a dose or two has frequently removed these disorders, by occasioning *either a salutary diaphoresis, or acting mildly by stool or vomit*. The colour of the levigated powder is a purplish brown. The antimonial emetic of BOERHAAVE, already mentioned, which is white, is nearly similar to it in its medicinal effects.

The common salt seems to be of no further use in the process, than as it serves to promote the fusion; and even for this it is not necessary. The medicine is said to be rather more mild and certain in operation, if prepared without it.

REGULUS ANTIMONII.

Regulus of antimony.

Take of

Antimony, .

Nitre,

Crudetartar, -- of each equal parts.

Grind them separately into a powder, then mix, and rub them all together. Throw the powder, at several times, into a red-hot crucible, taking care to break the crust, which forms on the surface, with an iron rod: when the detonation is over, let a strong fire be made, that the matter may flow like water; then pour it out into a warm greased cone, which is to be gently struck on the sides, that the regulus may separate and fall to the bottom. When grown cold, let the regulus be cleared from the scorice that lie a-top of it.

In this process (which is taken

from the edition of the Edinburgh Pharmacopœia, published in the year 1744), an alkaline salt is produced from the nitre and tartar, in such quantity as entirely to absorb the sulphur of the antimony: the alkali, thus sulphurated, will take up more or less of the reguline part, according to its quantity, and the continuance of the fusion.

As the ingredients are above proportioned, the yield of regulus proves extremely small, and if the fusion be long continued, scarce perceptible; almost the whole of it being taken up into the scorice. In order to obtain the largest quantity, the nitre ought to be diminished one half. It is convenient to rub the nitre and tartar together, and deslagrate them in an iron ladle or pan, before their mixture with the antimony; for by these means, the loss of some part of the antimony, which otherwise happens from the vehemence of the deslagration, will be prevented, a smaller crucible will serve, and less time and labour complete the process.

The mixture of nitre and tartar deslagrated together, will reduce any of the antimonial calces (as the diaphoretic antimony, ceruss, or antimony calcined by itself) into regulus; the oily matter of the tartar supplying the inflammable principle, which all calces require for their revival into a metallic form; and the alkaline salt promoting their fusion. It is the common reducing flux of the chemists; by whom it is called, from its colour, the *black flux*. The largest yield of regulus, hitherto obtained from antimony, has been got by calcining it without addition, as directed hereafter for making glass of antimony, and reviving the calx by fusion, with this, or similar compositions. Mr. GEOFFROY, who first communicated this method to the French academy, seems to look

upon soap (the substance he happened to make use of himself) as the only one that will succeed; but the effects of this are not different from those of the foregoing flux. Both consist of an alkaline salt, and an inflammable (not sulphureous) substance, which are the only materials here necessary. Upon the whole, the most advantageous process for obtaining this regulus appears to be the following.

Let powdered antimony be calcined or roasted over a gentle fire, as directed hereafter for making the glass. Mix the calx with about equal its weight of some reducing flux, such as the black flux above mentioned. Melt the mixture in a crucible, with a quick fire, and when in thin fusion pour it into a cone heated over a smoky flame. The pure regulus will fall to the bottom, the scorice floating at the top.

SULPHUR ANTIMONII PRÆCIPITATUM.

Lond. Edinb.

vulgo

SULPHUR AURATUM ANTIMONII.

Edinb.

Precipitated sulphur of antimony.

Lond.

Take of

Antimony powdered, two pounds;

Water of pure kali, four pints;

Distilled water, three pints.

Mix, and boil them with a slow fire for three hours, constantly stirring, and adding the distilled water as wanted; strain the hot ley through a double linen cloth; and into the liquor, whilst yet hot, drop by degrees as much vitriolic acid as is sufficient to precipitate the sulphur; wash off with warm water the vitriolated kali.

The same process is given in the Edinburgh Pharmacopœia, except that the boiling is ordered to be

performed in an iron pot covered, often stirring with an iron spatula.

The foregoing preparation is not strictly sulphur. It contains a considerable quantity of the metallic part of the antimony, which is reducible from them by proper fluxes. The quantity of regulus taken up will be different, according to the degree of fire employed, and the length of time that the fusion is continued. It, therefore, must needs be liable to great variation in point of strength, and in this respect it is perhaps, the most precarious, though some have affirmed that it is the most certain, of the antimonial medicines.

The foregoing preparation proves emetic when taken on an empty stomach, in a dose of four, five, or six grains; but in the present practice, it is scarce ever prescribed in this intention; being chiefly used as an *alterative deobstruent*, particularly in cutaneous disorders. Its emetic quality is easily blunted, by making it up into pills with resins or extracts, and giving them on a full stomach. With these cautions, it has been increased to the rate of sixteen grains a day, and continued for a considerable time, without occasioning any disturbance upwards or downwards. As its strength is precarious, it should be taken at first in very small doses, and increased by degrees according to its effect.

A composition of the sulphur antimonii præcipitatum with mercurius dulcis, has been found a *powerful, yet safe alterative in cutaneous disorders*; and has completed a cure after salivation had failed. In *venereal cases*, likewise, this medicine has produced excellent effects. A mixture of equal parts of the sulphur and calomel (well triturated together, and made into pills with extracts, &c.) may be taken from four to eight or ten grains, morning and night; the

patient keeping moderately warm, and drinking after each dose a draught of a decoction of the woods, or similar liquors. This medicine generally promotes perspiration, scarce occasioning any tendency to vomit or purge, or affecting the mouth.

KERMES MINERALIS.

Kermes mineral.

Take of

Antimony, sixteen ounces;
Any fixt alkaline salt, four ounces;
Water, one pint.

Boil them together for two hours, then filter the warm liquor. As it cools, the kermes will precipitate. Pour off the water, and add to it three ounces of fresh alkaline salt, and a pint more of water: in this liquor boil the remaining antimony as before; and repeat the process a third time, with the addition of only two ounces of alkaline salt, and another pint of water; filtering the liquor as at first, and collecting the powders which subside from them in cooling.

This medicine has of late been greatly esteemed in some places, under the names of *Kermes mineral*, *pulvis Carthusianus*, *poudre des Chartreux*, &c. It was originally a preparation of Glauber, and for some time kept a great secret; till at length the French king purchased the preparation from M. de la Ligerie, for a considerable sum, and communicated it to the public in the year 1720. In virtue, it is not different from the sulphurs above-mentioned. All of them owe their efficacy to a-part of the regulus of the antimony, which the alkaline salt, by the mediation of the sulphur, renders soluble in water.

PANACEA ANTIMONII.

Panacea of antimony.

Take of

Antimony, six ounces;

Nitre, two ounces;

Common salt, an ounce and a half;

Charcoal, an ounce.

Reduce them into a fine powder, and put the mixture into a red-hot crucible, by half a spoonful at a time, continuing the fire a quarter of an hour after the last injection. Then either pour the matter into a cone, or let it cool in the crucible, which when cold must be broken to get it out. In the bottom will be found a quantity of regulus; above this a compact liver-coloured substance: and on the top, a more spongy mass: this last is to be reduced into powder, edulcorated with water, and dried, when it appears of a fine golden colour.

This preparation is supposed to have been the basis of LOCKYER'S PILLS, which were formerly a celebrated purge. Ten grains of the powder mixed with an ounce of white sugar-candy, and made up into a mass with mucilage of gum tragacanth, may be divided into an hundred small pills; of which one, two, or three, taken at a time, are said to work gently by stool and vomit. The compact liver-coloured substance, which lies immediately above the regulus, operates more churlishly. This last appears to be nearly of the same nature with the *crocus antimonii*, and the former with the *antimonium cum sulphure*.

ANTIMONIUM VITRIFICATUM;

formerly

VITRUM ANTIMONII.

Vitrified antimony.

Lond.

Take of antimony, powdered, four ounces.

Burn it in a broad earthen vessel, raising the fire gradually, and stirring with an iron rod, until

it no longer emits any smoke.— With this powder fill two-thirds of a crucible, and fit on a cover; let the heat at first be moderate, and afterwards stronger, until it melts into glass, which may be poured from the crucible.

VITRUM ANTIMONII.

Glass of antimony.

Edinb.

Strew antimony reduced to a coarse powder like sand, upon a shallow earthen unglazed vessel, and place upon a moderate fire, that the antimony may be slowly heated, stirring the powder constantly at the same time, that the antimony may not run into lumps: white vapors, smelling like sulphur, will arise; when these, with the same degree of fire become deficient, increase the fire a little, that vapors may again exhale, and thus persist till the powder brought to a red heat exhales no more vapors. This powder should be put into a crucible, and melted with a very strong fire, until it puts on the appearance of liquified glass; then let it be poured out upon a brass plate, or dish, made hot.

The calcination of antimony, to fit it for making a transparent glass, succeeds very slowly, unless the operator be very wary and circumspect in the management of it. The most convenient vessel is a broad shallow dish, or a smooth flat tile, placed under a chimney. The antimony should be the purer sort, such as is usually found at the apex of the cones. This, grossly powdered, is to be evenly spread over the bottom of the pan, so as not to lie above a quarter of an inch thick on any part. The fire should be at first no greater than is just sufficient to raise a fume from the antimony, which is to be now and then stirred; when the fumes begin to decrease, increase the heat,

taking care not to raise it so high as to melt the antimony, or run the powder into lumps; after some time the vessel may be made red-hot, and kept in this state, until the matter will not, upon being stirred, any longer fume. If this part of the process be duly conducted, the antimony will appear in an uniform powder, without any lumps, and of a grey colour.

With this powder fill two-thirds of a crucible, which is to be covered with a tile, and placed in a wind-furnace. Gradually increase the fire, till the calx be in perfect fusion, when it is to be now and then examined by dipping a clean iron wire into it. If the matter, which adheres to the end of the wire, appear smooth and equally transparent, the vitrification is completed, and the glass may be poured out upon a hot smooth stone, or copper-plate, and suffered to cool by slow degrees, to prevent its cracking and flying in pieces. It is of a transparent yellowish red colour.

The glass of antimony usually met with in the shops, is said to be prepared with certain additions: which may perhaps render it not so fit for the purposes here designed. By the method above directed, it may be easily made, in the requisite perfection, without any addition.

As antimony may be rendered nearly or altogether inactive by calcination, it might be expected that the calx and glass of the present process would be likewise inert. But here the calcination is far less perfect than in the other case, where the inflammable principle of the regulus is totally burnt out by deflagration with nitre; there the calx is of perfect whiteness, and a glass made from that calx (with the addition of any saline flux, for of itself it will not vitrify) has little

colour: but here so much of the inflammable principle is left, that the calx is grey, and the glass of a high colour. The calcined antimony is said by BOERHAAVE to be violently emetic. Experience has shown that the glass is so, inasmuch as to be unsafe for internal use. It is employed chiefly, in the present practice, as being subservient to some other preparations, particularly the emetic tartar and antimonial wine; and in combination with wax, and some other substances, by which its power is obtunded.

VITRUM ANTIMONII CERATUM.

*Cerated glass of antimony.
Edinb.*

Take of

Yellow wax, a dram;

Glass of antimony, reduced into powder, an ounce.

Melt the wax in an iron vessel, and throw into it the powdered glass; keep the mixture over a gentle fire for half an hour, continually stirring it; then pour it out upon a paper, and when cold grind it into powder.

The glass melts in the wax, with a very soft heat. After it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of Scotch snuff, which is a mark of its being sufficiently prepared. The quantity here set down loses about one dram of its weight in the process.

This medicine has for some time been greatly esteemed in *dysenteries*: several instances of its good effects, in these cases, may be seen in the fifth volume of the Edinburgh Essays, from which the above remarks on the preparation are taken. The dose is from two or three grains to twenty, according to the age and strength of the patient. In its operation, it makes some persons

sick and vomit; it purges almost every one; though it has sometimes effected a cure, without occasioning any evacuation or sickness.

Mr. GEOFFROY gives two singular preparations of glass of antimony, which seem to have some affinity with this. One is made by digesting the glass, most subtilely levigated, with a solution of mastich made in spirit of wine, for three or four days, now and then shaking the mixture; and at last evaporating the spirit, so as to leave the mastich and glass exactly mingled. Glass of antimony thus prepared is said not to prove emetic, but to act merely as *acathartic*, and that not of the violent kind. A preparation like this was first published by Hartmann, under the name of *chylissa*.

The other preparation is made by burning spirit of wine upon the glass three or four times, the powder being every time exquisitely rubbed upon a marble. The dose of this medicine is from ten grains to twenty or thirty. It is said to operate mildly both *upwards* and *downtwards*, and sometimes to prove *sudorific*.

ANTIMONIUM MURIATUM.

*Lond. and Edinb.
formerly*

CAUSTICUM ANTIMONIALE and
BUTYRUM ANTIMONII.

*Muriated antimony.
Lond. and Edinb.*

Take of

Crocus of antimony powdered,
Vitriolic acid,—each one pound;
Dried sea salt, two pounds.

Pour the vitriolic acid into a retort, adding by degrees the sea-salt and crocus of antimony, previously mixed; then distil in a sand bath. Let the distilled matter be exposed to the air for several days, and pour the liquid from the dregs.

In the former edition of the Edinburgh Dispensatory the *butyrum antimonii*, as this preparation

was called, was made by adding one part of crude antimony to two parts of muriated quicksilver, which after being thoroughly mixed was distilled from a retort; in which process an oily liquor ascended and congealed in the neck of the retort, appearing like ice: this was melted down by a live coal cautiously applied, and this oily matter was rectified in a glass retort into a pellucid liquor. However, now the college has adopted the same method as that of London, which is considered not only as a less dangerous process, but also preferable to any other.

The muriated antimony appears to be a solution of the metallic part of the crocus in the marine acid. If regulus of antimony were added in the distillation of spirit of sea salt without water, a like solution would be made.

When the congealed matter that rises into the neck of the retort is liquefied by the moisture of the air, it proves less corrosive than when melted down and rectified by heat; though it seems, in either case, to be sufficiently strong for the purposes for which it is intended, as the *consuming of fungous flesh*, and the *callous lips of ulcers*. It is remarkable, that though this saline concrete readily and almost entirely dissolves by the humidity of the air, only a small quantity of white powder separating, it nevertheless will not dissolve on putting water to it directly. Even when previously liquefied by the air, the addition of water will precipitate the solution.

And accordingly, by the addition of water is formed, that once celebrated powder named *Mercurius Vitæ*, or *Algeroth's Powder*, which has not now any place in either of the Pharmacopœias.

MERCURIUS VITÆ, seu PULVIS
ALGEROTHI.

Mercury of life, or Algeroth's powder.
Take of

Rectified butter of antimony, as much as you please.

Pour to it a sufficient quantity of spring water, and an exceeding white powder will be precipitated. Edulcorate this by repeated affusions of warm water, and dry it by a slow fire.

This powder has not, as its name should seem to imply, any thing of mercury in it, but is solely composed of the reguline part of the antimony, corroded by the acid spirit of sea salt; which acid is so closely united, as not to be separated by any ablution with water. LE MORT directs some alkaline salt to be dissolved in the water, in order to obtund the acid. Several other methods also have been contrived for correcting and abating the force of this violent emetic; but they either leave it still virulent, or render it inert. It has therefore for a long time been laid aside by practitioners; and the Edinburgh college, who retained it in a preceding edition, have at a late revisal of their Pharmacopœia expunged it.

ARSENICUM ANTIMONIA-
TUM.

Antimoniated arsenic,
vel

CAUSTICUM ARSENICALE,
Arsenical caustic.

Take of

Powdered antimony, two ounces;
Arsenic, one ounce.

Let these be fluxed together till they are perfectly united, and afterwards reduced to powder.

This is a most useful composition, well calculated for the reduction of excrescences, or for the removal of parts in ill-conditioned ulcers, which seem to obstruct their healing; it was a favourite application of the late Mr. JUSTAMOND's, in his treatment of cancers; and may

be reduced to any degree of mildness, by the addition of powdered opium, which assists in reducing the violence of the pain.

BEZOARDICUM MINERALE.

Bezoar mineral.

Take any quantity of muriated antimony, newly rectified, and gradually drop into it nitrous acid, till the effervescence ceases.— Draw off the spirit in a glass vessel, placed in a sand-heat, till a dry powder remains behind. Add to this a little fresh nitrous acid, and again exsiccate it. Repeat this a third time: then commit the powder in a crucible to a naked fire, till it has received an almost white heat, and detain it in this state for half an hour.

This preparation may be easier made, and with greater safety to the operator, by dropping the butter of antimony into three or four times its weight of nitrous acid, and distilling the mixture in a retort, until a dry white mass is left behind, which is afterwards to be calcined, as above directed. It may likewise be made by distilling nitrous acid from the mercurius vitæ, and calcining the remainder; or by deflagrating the mercurius vitæ with thrice its weight of pure nitre. This last method, proposed by WEDELIS, is followed by the Augustan college.

Bezoar mineral was formerly held in great esteem as a *diaphoretic*; but its reputation is at present almost lost. It is not different in medical virtue, or in any sensible quality, from the calces of antimony made directly by deflagration with nitre, some of which have generally supplied its place in the shops. It appears at first extraordinary, that the violent caustic, muriated antimony, should be rendered indolent by the corrosive spirit of nitre. How this happens will

be easily understood, upon considering that the nitrous acid expels the marine (to which the caustic quality is owing), and is itself expelled from most metallic substances by fire.

ANTIMONIUM TARTARISATUM.

Lond. Edinb.

formerly

TARTARUM EMETICUM.

Tartarified antimony.

Lond.

Take of

Crocus of antimony, powdered, one pound and an half;
Crystals of tartar, two pounds;
Distilled water, two gallons.
Boil them in a glass vessel about a quarter of an hour: filter the liquor through paper, and set it by to crystallize.

Edinb.

Take of

Muriatic antimony, any quantity.
Infuse it in hot water, in which has been dissolved, before-hand, as much fixed alkaline vegetable salt, well purified, as will precipitate all the antimony, which being well washed, should be dried; and boil nine drams of it with two ounces and an half of crystals of tartar, finely powdered, in five pounds of water, till the powders are dissolved; strain the solution, evaporate to a pellicle, and set it to crystallize.

Though we have here two very different modes for procuring the tartarified antimony, still the product is the same, the reguline part of antimony united with the acid of tartar.

To which mode the preference ought to be given is doubtful, as from both a very good compound may be formed. By some the method adopted by the Edinburgh college is thought most eligible, for

when it is formed from the precipitate from the muriatic acid, there is the least chance of its being uncertain in its operation. BERGIUS and others have recommended the precipitation to be made by water; but when it is procured by an alkaline ley, it is more certainly freed from the muriatic acid, and will of course be milder.

By employing the washed crocus, as in the first process, it proves of a whiter colour, and likewise more certain in strength; though it will still be somewhat precarious in this last respect, if the crystallisation be complied with: for some of the tartar, even though the operation be performed with a good deal of care, will be apt to shoot by itself, retaining little or nothing of the antimony. It should seem therefore more eligible, as soon as the solution has passed the filter, to proceed to the total evaporation of the liquor, or at least to evaporate lower than is usual for crystallisation, that the whole may shoot at once; but in order to secure the uniform strength, after the crystals are all separated from the liquor, they ought to be beat together in a glass mortar, into a fine powder, which will answer the desired purpose.

The tartarised antimony is one of the best of the *antimonial emetics*, acting more powerfully than the quantity of crocus contained in it would do by itself, though it does not so much ruffle the constitution. And indeed antimonials in general, when thus rendered soluble by vegetable acids, are more safe and certain in their effects, than the violent preparations of that mineral exhibited by themselves; the former never varying in their action from a difference in the food taken during their use, or

similar circumstances, which occasioning more or less of the others to be dissolved, make them operate with different degrees of force.—Thus crude antimony, where acid food has been liberally taken, has sometimes proved violently emetic; whilst, in other circumstances, it has no such effect.

The dose of tartarised antimony, when designed to produce the full effect of an emetic, is from four to six or eight grains. It may likewise be advantageously given in smaller doses, half a grain for instance, as a *diaphoretic* and *alterative* in cutaneous disorders; and added, in the quantity of a grain, as a stimulus to ipecacuanha, &c. Added to purgative medicines, in small doses, it certainly assists to their operation, and makes them act more quickly.

Before we quit this subject, it may be necessary to make one observation—that the activity of the reguline part of antimony depends upon its union with acids; the union being formed either in the stomach, with the acid to be met with in that organ, or from, and before it is administered internally: hence it is why the calces are so uncertain in their operation, sometimes operating violently, at others, not at all; and hence may it be accounted for why they produce such different effects, at different times; very small doses being much more active at one time, than doses much increased are at another.—Hence it is obvious why the preparations, consisting of the reguline part of antimony already in combination with an acid, are the most certain and constant in their operations; and such is the tartarised antimony, whose doses and effects may be measured with great exactness.

Dr. BLACK's TABLE of the PREPARATIONS of ANTIMONY.

The Preparations of Antimony are obtained either from the crude antimony, or from the pure metallic part of it called regulus.

FROM CRUDE ANTIMONY.

I. BY SIMPLE PULVERISATION.

Antimonijum præparatum. *Ed.*
et *Lond.*

II. BY THE ACTION OF HEAT AND AIR.

Flores antimonii, sine addito.
Vitrum antimonii. *Ed.* et
Lond.
Vitrum antimonii ceratum.
Ed.

III. BY THE ACTION OF FIXED ALKALIES.

1. Joined with it by fusion.
HEPARS of antimony.

Hepar antim. mitissimum, *vulgo*
Regulus antim. medicinalis.
Hepar for the Kermes mineral
of Geoffroy.

Hepar for the tinctura anti-
monii. *Lond.*

2. Acting upon it in the form
of a watery solution.

Kermes mineralis.
Sulphur antim. præcipitatum.
Ed. et *Lond.*

Vulgo Sulphur auratum anti-
monii.

IV. BY MELTING OR DEFLA-GRATING IT WITH NITRE, WHICH PRODUCES EITHER CROCI OR CALCES OF ANTIM.

Crocus antim. mitissimus,
vulgo Regulus antim. me-
dicinalis.

Crocus antimonii mitior.
Crocus antimonii. *Lond.*

Crocus antimonii, *vulgo* Cro-
cus metallorum. *Ed.*

Crocus antimonii lotus.
Lond.

Antimon. emeticum
mitius. Boerh.

Calx antimonii nitrata. *Ed.*
Vulgo James's powder.

Calx antimonii. *Lond.* *Vulgo*
Antim. diaphoreticum.

V. BY THE ACTION OF ACIDS.

Antimon. Vitriolatum.—
Klaupig.

Antimon. catharticum.—
Wilson.

Causticum antimoniale, *vulgo*
Butyrum Antim. *Ed.*

Causticum antimoniale.—
Lond.

Mercurius vitæ, sive pul-
vis Algarotti.

Bezoardicum minerale.

Florus antim. cum sale
ammoniaco.

Tartarus antimonialis,—
vulgo emeticus. *Ed.* et

Tartarus emeticus.
Lond.

Vinum antimoniale. *Ed.* et *Lond.*

Vinum e tartaro antimoniali. *Ed.*

FROM THE REGULUS.

This metal separated from the sul-
phur by different processes, is
called *Regulus antimonii simplex*,
Regulus antimonii martialis, *Re-*
gulus jovialis, &c. From it were
prepared,

I. BY THE ACTION OF HEAT AND AIR,

Flores argentei, sive nix antim.

II. BY THE ACTION OF NITRE,

Cerussa antimonii.
Stomachicum Poterii.
Antihæsticum Poterii.
Car diacum Poterii.

Preparations which have their name from antimony, but scarcely contain any of its metallic part.

Cinnabaris antimonii. Lond.

Tinctura antimonii. Lond.

In the various preparations of antimony, the reguline part is either combined with an acid, or in a condition to be acted upon by acid in the stomach; and the general effects of antimonials are, diaphoresis, nausea, full vomiting and purging, which perhaps may be

best obtained by the forms of prepared antimony and emetic tartar. Some allege that antimonials are of most use in fevers when they do not produce any sensible evacuation, as is said to be the case sometimes with James's powder. Some therefore prefer it in typhus, and emetic tartar in synochus, in which there is the appearance at first of more activity in the system, and more apparent cause for evacuation.

SECT. IX.

PREPARATION OF BISMUTH.

THIS metal resembles in appearance the regulus of antimony; but differs greatly from it, in its pharmaceutical properties and medical qualities. It melts in a very small heat, long before ignition; and totally dissolves, with great effervescence, in dilute nitrous acid, which only corrodes the antimonial metal. As a medicine, it seems, when pure, to have little or no effect; though some preparations of it were formerly accounted diaphoretic. At present, only one preparation comes under the notice of the apothecary or chemist, and that designed for external use.

MAGISTERIUM BISMUTHI.

Magistery of bismuth.

Dissolve bismuth in a proper quantity of dilute nitrous acid, without heat, adding the bismuth by

little and little at a time. Pour the solution into sixteen times its quantity of fair water. It will grow milky, and on standing for some time, deposit a bright white precipitate: the addition of spirit of wine will expedite the precipitation. Wash the powder in fresh parcels of water; and dry it in a shady place betwixt two papers.

This preparation is of some esteem as a cosmetic, which is the only use to which it is now applied. The diaphoretic virtues, attributed to it when taken internally, have very little foundation, and by the present practice are not at all regarded. It was proposed to be received in our Pharmacopœia at a late revival, but was found much too insignificant to be admitted there.

SECT. X.

COMPOUND METALLIC PREPARATIONS.

LAPIS MEDICAMENTOSUS.

The medicinal stone.
London.

TAKE of

Litharge,

Bole armenic, or French bole,

Alum,—each half a pound;

Colcothar of green vitriol, three ounces;

Vinegar, a quarter of a pint.

Mix and dry them till they grow hard.

This preparation is employed externally as an *astringent*, for fastening loose teeth, preserving the gums, healing and drying up ulcers and wounds, and repressing fluxions of thin acrid humours upon the eyes. It is sometimes used in injections for checking a gonorrhœa, after the virulence is expelled. A preparation much resembling this is said, in the memoirs of the French academy, to be greatly esteemed among the surgeons in the army as a vulnerary.

SPECIFICUM ADSTRINGENS
 MAETZII.

An astringent preparation taken from Maetz, which has been sold under the name of

Colbatch's styptic powder.

Take any quantity of iron filings, and as much spirit of salt as will rise above them three or four inches. Digest them together with a gentle heat, till the spirit cease to act on the metal. Then pour off the liquor, evaporate it to one half, and add thereto an equal weight of sugar of lead.

Continue the evaporation, with a small heat, until the matter remain dry, and assume a red colour.

If the process be stopt as soon as it becomes dry, it has exactly the appearance of Colbatch's powder. It must be kept close from the air, otherwise it deliquesces.

This is said to be *the styptic*, with which so much noise was made some time ago by the author of the *Novum Lumen Chirurgiæ*; and for the sale of which, a patent was procured: only in that was used the vitriolic acid, instead of muriatic in this; a difference not very material. The preparation stands recommended in all kinds of hæmorrhages and immoderate fluxes, both internally and externally: the dose is from four grains to twelve. It is undoubtedly an efficacious styptic, but for internal use a dangerous one. See the article LEAD, and its preparations.

ANTIHECTICUM POTERII.

Poterii's antihæctic,

Take of

Martial regulus of antimony, six ounces;

Fine tin, three ounces.

Melt these together in a crucible; then pour them out into a warm greased mortar, and when the mass is grown cold, grind it into a powder. Add to this thrice its weight of pure nitre, and deflagrate the mixture in a crucible, throwing in only a spoon-

ful at a time; then calcine it [that is, keep it in fusion] for an hour; and, having afterwards ground it into an impalpable powder, pour on it a sufficient quantity of warm water. Stir them well together with a pestle, till the water grows milky, which, thus loaded with the finer parts of the powder, is to be poured off, and fresh water put to the remainder. Repeat this operation till nothing but indissoluble fæces remain behind. Suffer all the milky liquors to rest. A powder will fall to the bottom, which is to be washed with repeated affusions of warm water, and lastly dried for use.

The regulus of antimony should be melted before the tin is added to it; for, if they both be put into the crucible together, a part of the tin will be dissipated by the heat requisite for the fusion of the regulus.

The chemists have been greatly divided with regard to the proportion which these two ingredients ought to bear to one another. Some vary so much from the present prescription, as to order two parts of the antimonial regulus to one of tin; others no more than one part to six. Nor have they agreed upon the colour which this preparation ought to have; some preferring that which is perfectly white, whilst others look upon a blueish tinge as a mark that the proportions have been duly observed, and the operation regularly performed. In the process above, it seems intended to be white: for without the observance of certain encheireses, not there mentioned, as particularly calcining the powder after the ablutio, it will scarce have any thing of a blueish cast.

Practical physicians do not differ less in the accounts which they give

of the virtues of this celebrated medicine. Some extol it as an excellent *diaphoretic*, &c. others are ready to vouch, that it has done most eminent service in *bestical cases*; whilst many, of no small note, are not only confident that it has none of the virtues attributed to it, but utterly condemn it as unsafe, and capable of producing the very disorders said to be remedied by its use. This affair probably will not be satisfactorily determined, till the virtues of *calx of tin* and *calx of antimony* (of which this medicine is a mixture) shall be better ascertained than they are at present. In the mean time, the use of the *antibestic* is in common practice laid aside; and is not likely to be ever introduced again.

BEZOARDICUM JOVIALE.

Bezoar with tin.

Take of

Regulus of antimony, three ounces;

Pure tin, two ounces;

Muriated mercury, five ounces.

Melt the regulus of antimony in a crucible, and put to it the tin, so as to make a new regulus; to which, after being levigated, add the muriated mercury, and distil the mixture in a retort. Let the muriated antimony which arises in this process, be fixed, by three repeated distillations, with thrice its own quantity of nitrous acid. The powder is then to be calcined; thrown, whilst ignited, into a proper quantity of spirit of wine; and afterwards dried for use.

This preparation is not greatly different from the foregoing. The muriated antimony seems to contain more of the tin, than of the antimonial regulus, united with the marine acid of the muriated quick-silver. The nitrous spirit expels the marine, and is itself afterwards expelled in the calcina-

tion; leaving the powder a mere calx, similar to one prepared from the same ingredients in a less troublesome manner, by deflagration with nitre.

ÆTHIOPS ANTIMONIALIS.

Antimonial æthiops.

Let equal quantities of antimony and sea salt be melted together in a crucible for an hour; when grown cold, a regulus (improperly so called) will be found in the bottom. This is to be separated from the scorice that lie above it, and ground with an equal weight of purified quick-silver, until they are united.

This medicine is said to be of remarkable efficacy in *venereal cases of long standing, in cancerous tumours, scorbutic and scrophulous disorders, obstinate glandular obstructions, and sundry other chronic distempers* which elude the force of the common medicines. A few grains may be given at first; and the dose gradually increased, according to its operation, to a scruple or more. It acts chiefly by *promoting perspiration*. In some constitutions, it *proves purgative*; and, in others, if the dose be considerable, *emetic*.

Sundry other preparations of this kind have been held by some people in considerable esteem, though not taken notice of by common practice. They have been generally composed of mercury, united by triture either with crude antimony, the medicinal regulus, or the golden or precipitated sulphur.

Mr. MALOUIN, of the faculty of Paris, made trial of different methods for uniting mercury and crude antimony into an æthiops. Those which succeeded I shall here extract from his *Chimie Medicinale*.

On grinding together two parts of antimony and one of mercury,

the mercurial globules disappeared in three hours, and the compound proved similar in appearance to the æthiops made with the same proportions of mercury and common sulphur. — Equal parts of the antimony and mercury were united with much more difficulty, requiring the triture to be continued for two days; though it was found also, even with these proportions, that when the mercury was added, not all at once, but by little and little, the union might be effected in five hours. — As common æthiops is made more perfect, in regard to the intimate union of the ingredients, by heat than by triture; the most perfect antimonial æthiops also was obtained by means of fire, in the following manner.

A heated crucible is to be rubbed in the inside with tallow, immediately covered, and set in the fire. When red-hot, throw in the antimony, beaten into coarse powder, and cover the vessel again. When the antimony is melted, take the crucible out of the fire, throw in a small bit of tallow, pour an equal weight of heated quick-silver on different parts of the surface, cover the crucible for a moment, and, while the mixture is still fluid, pour it out into a heated iron mortar. When grown cold, reduce it into a powder, which is to be levigated on a marble.

On this black powder the author directs some spirit of wine to be burnt two or three times. This may very safely be omitted, as it can nowise affect the medicine. — The only difficulty in the process relates to the degree of heat of the melted antimony. If it be not sufficiently fluid, the mercury cannot equally unite with it: and, if over hot, great part of the mercury will be dissipated.

Mr. MALOUIN commends this æthiops, as a medicine of great efficacy in *glandular obstructions, obstinate cutaneous maladies of different kinds, inveterate rheumatisms, &c.* It acts most commonly by *urine and perspiration*, rarely purges, or occasions only some slight nausea. The dose is from one grain to twenty, two or three times a day, that is, from one to sixty grains in a day.—In some persons a dram has no sensible operation; others are moved by six grains.

PART IV.

MEDICINAL COMPOSITIONS.

CHAPTER I.

POWDERS.

THIS form receives such materials only, as are capable of being sufficiently dried to become pulverable without the loss of their virtue. There are many substances, however, of this kind, which cannot be conveniently taken in powder. *Bitter acrid, fetid drugs*, are too disagreeable; — *emollient and mucilaginous herbs and roots* are too bulky; — *pure gums cohere*, and become tenacious in the mouth; — *fixt alkaline salts* liquefy upon exposing the composition to the air; — and *volatile alkalis* exhale.

The dose of powders, in extemporaneous prescription, is generally about half a dram: it rarely exceeds a whole dram; and is, not often, less than a scruple. Substances which produce powerful effects in smaller doses, are not trusted to this form, unless their bulk be increased by additions of less efficacy. Those which require to be given in larger ones, are better fitted for other forms.

The usual vehicle for taking the

lighter powders, is any agreeable thin liquid. The ponderous powders, particularly those prepared from metallic substances, require a more consistent vehicle, as syrups; for, from thin ones, they soon subside. Resinous substances likewise are most commodiously taken in thick liquors: in thin ones, they are apt to run into lumps, which are not easily again dissoluble.

General rules for making powders.

I.

Particular care ought to be taken that nothing carious, decayed, or impure, be mixed in the composition of powders: the stalks and corrupted parts of plants are to be separated.

II.

The dry aromatics ought to be sprinkled, during their pulverification, with a few drops of any proper water.

III.

The moister aromatics may be

dried with a very gentle heat, before they are committed to the mortar.

IV.

Gums, and such other substances as are difficultly pulverable, should be pounded along with the drier ones, that they may pass the sieve together.

V.

No part should be separated for use, until the whole quantity put into the mortar has passed the sieve, and the several siftings been mixed together; for those parts of one and the same subject, which powder first, may prove different, at least in degree of efficacy, from the rest.

VI.

Powders of aromatics are to be prepared only in small quantities at a time, and kept in glass vessels very closely stoppt.

If powders be long kept, and not carefully secured from the air, their virtue is in great measure destroyed, although the parts in which it consists should not in other circumstances prove volatile. Thus, though the virtues of *ipecacuanha* be so fixt as to remain entire even in extracts made with proper menstrua, yet, as the college of Wirtemberg observes, if the powdered root be exposed for a length of time to the air, it loses its emetic quality.

PULVIS ANTILYSSUS.

Powder against the bite of a mad dog.

Take of

Ash-coloured ground liverwort, two ounces;

Black pepper, one ounce.

Beat them together into a powder.

In a former Pharmacopœia, the quantity of pepper was equal to that of the herb: which rendering the powder greatly too hot, the above diminution of it became necessary. The virtue which this medicine has been celebrated for is

expressed in its title. The dose is a dram and a half, to be taken in the morning fasting, in half a pint of cow's milk warm, for four mornings together.

Upon the authority of Dr. MEAD, this formula has had a place in both the London and Edinburgh Pharmacopœias; but is now deservedly rejected, as a medicine inefficacious.

PULVIS ARI COMPOSITUS.

Compound powder of arum.

Take of

Arum roots, newly dried, two ounces;

Calamus aromaticus,

Burnet saxifrage roots,—of each one ounce;

Canella alba, six drams;

Vitriolated tartar, two drams.

Mix and make them into a powder.

The *pulvis ari compositus* was originally intended as a *stomachic*: and in *weaknesses and relaxations of the stomach*, accompanied with a surcharge of viscid humours, it is doubtless a very useful medicine. It frequently also has good effects in *rheumatic cases*, of which I have known some instances. The dose may be from a scruple to a dram, two or three times a day, in any convenient liquor. It should be used as fresh as possible, for its virtue suffers greatly in keeping. The arum root in particular, its capital ingredient, soon loses the pungency in which its efficacy principally consists.

PULVIS CRETACEUS.

Chalk powder.

Edinb.

Take of

White prepared chalk, four ounces;

Nutmeg, half a dram;

Cinnamon, one dram and an half.

Mix into a powder.

These powders are considered as

warm absorbents, and given in diarrhoea, particularly such as arise from acidity; and that with opium, in cases of great irritability, where the aromatic absorbents require the assistance of a sedative.

**PULVIS e CRETA
COMPOSITUS sine OPIO.**

Compound powder of bole without opium.

Lond.

Take of

Prepared chalk, half a pound;
Cinnamon, four ounces;
Tormentil-root,
Gum Arabic, — each three ounces;
Long pepper, half an ounce.

Reduce these ingredients into powder.

**PULVIS e CRETA
COMPOSITUS cum OPIO.**

Compound powder with opium.

Lond.

Take of

Compound powder of chalk,
eight ounces;
Hard purified opium, powdered,
one dram and an half.

Mix them.

**PULVIS CERUSSÆ COM-
POSITUS.**

Compound powder of cerusse.

Lond.

Take of

Cerusse, five ounces;
Sarcocolla, an ounce and a half;
Gum tragacanth, half an ounce.

Beat them together into a powder.

This composition is the *trochisci albi* of Razi, brought back to its original simplicity with regard to the ingredients, and without the needless trouble of making it into troches. It is employed for external purposes, as in *collyria*, *lotions*, and *injections*, for repelling acrimonious humours, and in inflammations.

**PULVIS CHELARUM CAN-
CRI COMPOSITUS.**

Compound powder of crab's-claws.

Lond.

Take of

Crab's-claws, prepared, one pound;

Chalk, prepared,

Red coral, prepared,—each three ounces.

Mix them.

These powders have lost several of their ingredients, without any injury to their virtues; and possibly they would still bear a further reduction; for both the crab's-eyes and claws are by themselves at least as effectual as any composition of them with pearls and coral. In some of our hospitals, the following composition is substituted.

**PULVIS TESTACEUS COM-
POSITUS.**

Compound testaceous powder.

Take of

Oyster-shells, prepared, one pound;

White chalk, half a pound.

Mix them together.

This cheap absorbent powder is at least equally valuable, as a medicine, with the more costly and compounded crab's-claw and bezoardic powders of the shops. These kinds of preparations are given from half a scruple to half a dram, for absorbing or destroying acidities in the first passages; which seems to be the only good effect that can be reasonably expected from these simple antacid earths. If they meet with no acid to dissolve them, they promise to be injurious, rather than beneficial.—They have often been given in fevers, under the notion of *alexipharmacs* and *sudorifics*, from a supposition that these disorders are occasioned by a latent acid; and, though this theory is now exploded, the practice built upon it is, in good measure, still continued. So far are absorbents from being useful in these cases, that substances of a directly contrary quality, *mild acidulous liquors*, are in general the most successful remedies, where,

ever the vis vitæ is not too far depressed; and, where it is, the insipid indolent earths can contribute nothing to support or raise it.

It may here be proper to take notice of a quality, hitherto little expected from these kinds of substances; that of *strongly promoting putrefaction*. Flesh mixed with a small proportion of chalk, and exposed to a heat equal to that of the human body, not only corrupts sooner than without this addition, but likewise in a far greater degree, resolving in a few days into a perfect mucus. This quality of the absorbent powders (for the discovery of which, with many other curious experiments on the same subject, the public is obliged to the ingenious Dr. PRINGLE) seems to forbid their use in all those kinds of fevers where the animal juices are already too much disposed to a putrefactive state. We have before observed, that, in these cases, though very frequently employed, they are at best unserviceable. Perhaps their ill effects would be oftener seen, if it were not for the quantity of acids usually given in acute diseases.

PULVIS CONTRAYERVÆ COMPOSITUS.

Compound powder of contrayerva.
Lond.

Take of

Compound powder of crab's-claws, a pound and a half;

Contrayerva-root, five ounces.

Make them into a powder.

These powders were formerly directed to be made up into balls with water (and then called LAPIS CONTRAYERVÆ); a piece of trouble now laid aside as needless; for it was necessary to reduce the balls into powder again before they could be used. Nor did that form contribute, as has been imagined, to their preservation; for it is scarce to be supposed, that the

powder will lose more by being kept for a reasonable length of time in a close-stopt glass, than the balls will, in the humectation with water, and exsiccation in the air, before they are fit for being put by to keep. These medicines have a much better claim to the title of *alexipharmic* and *sudorific*, than the two foregoing compositions. The contrayerva by itself is such, and proves very serviceable in low fevers, where the vis vitæ is weak, and a *diaphoresis* to be promoted. It is possible, that the crab's-claws powders are of no further service, than as they divide this powerful ingredient, and render it supportable to the stomach.

PULVIS IPECACUANHÆ COMPOSITUS;

vulgo

PULVIS DOVERI.

Compound powder of ipecacuanha.
Lond. Edinb.

Take of

Ipecacuanha,

Hard purified opium,—each, powdered, one dram;

Vitriolated kali, or lixiva, one ounce.

Mix them.

In this, as well as all other powders, where opium, scammony, aloes, calomel, or any other active ingredients enter the composition, the operator should be particularly careful, that they should be equally distributed, lest different portions should differ in strength.

This powder is considered as one of the most certain sudorifics of which we are in possession, and hence supposed to be a very effectual remedy in *rheumatisms*, and also useful in other disorders, where a cuticular discharge is wanted to be promoted; hence it is given in dropsy, &c. The dose is from five to six grains to sixteen or upwards, according as the patient's strength and stomach are able to bear it.

It is necessary to observe, that patients should avoid much drinking immediately after it has been administered—because that may occasion it to be rejected by vomiting, before any other effect can be produced.

PULVIS OPIATUS.

Opiate powder.

Lond.

Take of

Hard purified opium, one dram;
Burnt and prepared hartshorn,
nine drams.

Mix them.

This powder may be considered as a good opiated absorbent; and where there are prevalent acidities on the stomach, probably assist the opium in preventing the acidity from weakening its effects, and by forming with the acid a neutral salt, may in some degree prove a sudorific. It may also become an useful succedaneum for the pulvis ipecacuanhæ compositus, in patients whose stomachs are so circumstanced, as to be easily moved by very slight doses of ipecacuanha, as is sometimes the case. Besides, as ten grains of this powder contain one of opium, we can exhibit opium in any small quantity which may be required, with the greatest nicety.

PULVIS JALAPÆ COMPOSITUS.

Compound powder of jalap.

Edinb.

Take of

Jalap root, one ounce;

Crystals of tartar, two ounces.

Mix, and rub them together diligently for some time, so as that they may form a very fine powder.

The addition of the crystals of tartar is ordered to correct the griping effects of the jalap, which it is said effectually to do, if they are beat very well together, and a very perfect and minute mixture form-

ed. It is an excellent purgative, well calculated to clear the intestinal tubes and evacuate the serous fluids from the system in general.

PULVIS E MYRRHA COMPOSITUS.

Compound powder of myrrh.

Lond.

Take of

Dried safin,

Dried rue,

Myrrh,

Russian castor, — of each one ounce.

Rub them together into a powder.

This is a reformation of the *trochisci e myrrha*, a composition contrived by RHAZES against uterine obstructions. It may be taken in any convenient vehicle, or made into boluses, from a scruple to a dram or more, two or three times a day.

PULVIS E SCAMMONIO COMPOSITUS.

Compound powder of scammony.

Lond.

Take of

Scammony,

Extract of jalap, — of each two ounces;

Ginger, half an ounce.

Powder them separately, and mix them.

PULVIS SCAMMONII COMPOSITUS CUM ALOE.

Compound powder of scammony with aloes.

Lond.

Take of

Scammony, six drams;

Hard extract of jalap,

Socotorine aloes, — of each one ounce and a half;

Ginger, half an ounce.

Powder them separately, and mix them.

This medicine is well calculated to afford relief in obstinate costiveness, in doses of from five to ten grains; for the combination of the

three powerfully purgative ingredients constitutes a very active composition, particularly to torpid habits, where such medicines become necessary.

PULVIS SCAMMONII CUM CALOMELANE.

Powder of scammony, with calomel.

Take of

Scammony, half an ounce;

Calomel,

Double refined sugar,—of each two drams.

Rub them separately to powder, and mix them.

Here the scammony is assisted in its operation, by the calomel; which not only renders it useful in cases of obstinate constipation, but also in dropsies, where a large discharge of water is required; for, by the stimulant power of calomel, the absorbent system is very likely to have its action much increased.

This powder has been usually prepared with diaphoretic antimony and crystals of tartar, and called, from its first publisher, **PULVIS CORNACHINI**, which, in the Edinburgh Pharmacopœia, is thus directed.

Take of

Diaphoretic antimony,

Cream of tartar,

Scammony,—each equal parts.

Make them into a powder.

This may be given to the quantity of a dram or more. The tartar and antimonial calx appear to be no further useful, than as they divide the texture of the scammony; though Cornachini proposes notable advantage from some deobstruent quality in the tartar, whereby the vessels shall be opened, and the noxious humours prepared for expulsion; and from the preparation of antimony, though it have no sensible operation, he expects some share of the same success which sometimes attends the rougher preparation of that mineral,

Edinb.

Take of

Scammony,

Crystals of tartar,—of each two ounces.

Mix, and let them be well rubbed together, that they may form a powder.

Here we have two preparations, differing very widely in the composition, though bearing the same name, one of them that of the London Pharmacopœia, highly increasing the purgative power of the scammony, and the heating quality of the composition, whilst that of Edinburgh has added not only a slight auxiliary, but also a cooling corrector. Though they may both of them be serviceable, under particular circumstances, we cannot avoid confessing, that, in general, we should prefer that of Edinburgh.

PULVIS E SENA COMPOSITUS.

Compound powder of sena.
Lond.

Take of

Crystals of tartar,

Sena,—each two ounces;

Scammony, half an ounce;

Ginger, two drams.

Powder the scammony by itself; and all the other ingredients together. Then mix them.

This powder is given as a cathartic, in the dose of two scruples, or a dram. The spice is added, not only to divide, but to warm the medicine, and make it sit easier on the stomach. The scammony is used as a stimulus to the sena.—The quantity of the latter necessary for a dose, when not assisted by some more powerful material, is too bulky to be conveniently taken in this form.

PULVIS ASARI COMPOSITUS.

Lond. Edinb.
formerly

PULVIS STERNUTATORIUS.

Lond.

PULVIS CEPHALICUS.

*Edinb.**Compound powder of asarabacca.**Lond.*

Take of

Sweet asarabacca,

Marjoram,

Syrian herb mastich,

Lavender flowers, — of each,
dried, equal weights.

Powder them together.

PULVIS CEPHALICUS.

*Cephalic powder.**Edinb.*

Take of

The leaves of asarum, three
parts;

Lavender flowers,

Leaves of marjoram,—one part.

Beat them together into a powder.

These powders are both agreeable and efficacious errhines, and superior to most of those usually sold under the name of herb snuff.

In cases of obstinate head-achs, and of inflammations of the eyes, of long continuance, they have proved very efficacious remedies, for they differ very little in their effects:—they have also been of use in rheumatic pains of the face, and some species of tooth-ach.

Five or six grains, snuffed up the nose at bed-time, will act the next day as a powerful errhine, occasioning a frequent sneezing, and copious discharge from the nose. But care must be taken, during the operation, to avoid exposure to the cold air.

PULVIS ALUMINIS COMPOSITUS.

*vulgo**Compound powder of alum.**Edinb.*

Take of

Alum, one ounce and an half;

Gum kino, three drams.

Rub them together into a fine powder.

This powder has long been in repute as an astringent; under the title of PULVIS STYPTICUS HELVETII. Though, by substituting the gum kino, instead of the dragon's blood, which used to have a place in this formula, the medicine is much improved, in as much as the gum possesses more certain and superior astringent powers. It is undoubtedly a very powerful medicine; particularly efficacious in uterine hæmorrhages. Some direct the ingredients to be melted together before they are powdered. But this circumstance does not appear to be necessary.

PULVIS E SUCCINO COMPOSITUS.

*Compound powder of amber.**Lond.*

Take of

Amber prepared,

Gum arabic,—each ten drams;

Juice of hypocistis,

Balaustines,

Japan earth,—each five drams;

Olibanum, half an ounce;

Strained opium, one dram.

Beat them together into a powder.

This powder is composed of the more unexceptionable ingredients of the TROCHISCI E CARABE of a former Pharmacopœia. The articles omitted, which are as many in number as those now retained, were manifestly absurd or superfluous; and the making it up into troches, a very unnecessary trouble. The medicine, as now reformed, may be looked upon as an useful and tolerably elegant astringent; though possibly the ingredient which it receives name from, contributes little to its virtue. Two scruples of the composition contain one grain of opium.

PULVIS E TRAGACANTHA COMPOSITUS.

Compound powder of gum tragacanth.
Lond.

Take of

Gum tragacanth,
Gum arabic,
Starch,—each an ounce and an
half;
Double refined sugar, three
ounces.

Grind them into a powder,

This powder is a mild emollient, and hence becomes serviceable in *hectic cases, tickling coughs, strangury, some kind of alvine fluxes,* and other disorders proceeding from a thin acrimonious state of the humours, or an abrasion of the mucus of the intestines. They soften, and give a greater degree of consistency to the former, and defend the latter from being irritated or excoriated by them. All the ingredients coincide in these general intentions. The dose is from half a dram to two or three drams, which may be frequently repeated.

PULVIS ALOES CUM CANNELLA.

formerly

HIERA PICRA.

Powder of aloes, with canella.

Take of

The gum of Socotorine aloes,
one pound;

White canella, three ounces.

Beat them separately into powder, and then mix them together.

This is an useful aloetic purgative, the canella being a good corrector of the aloes. It is seldom, however, given in this form, more frequently in electuary, or pills; and used to form the basis of a tincture, called *tinctura sacra*; sacred tincture.

PULVIS ALOES CUM FERRO,

instead of the

PILULÆ ECPHRACTICÆ.

Powder of aloes, with iron.

Lond.

Take of

Socotorine aloes, an ounce and
an half;

Myrrh, two ounces;

Dried extract of gentian,

Vitriolated iron,—of each one
ounce.

Let them be powdered separately, and then mixed together.

This is a useful deobstruent, and often given in cases of obstructed catamenia, as all the articles are calculated to promote that salutary discharge.

PULVIS ALOES CUM GUAIA-
ACO,

instead of the

PILULÆ AROMATICÆ.

*Powder of aloes, with guaiacum.
Lond.*

Take of

Socotorine aloes, one ounce and
an half;

Gum resin of guaiacum, one
ounce;

Aromatic powder, half an
ounce.

Rub the aloes and gum resin separately, to powder; and then mix them with the aromatic powder. This, when taken in small doses, promotes perspiration, in larger ones, is a warm purgative.

PULVIS AROMATICUS;

formerly

SPECIES AROMATICA.

Lond. Edinb.

Aromatic powder.

Lond.

Take of

Cinnamon, two ounces;

Lesser cardamom seeds, husked,
Ginger,

Long pepper,—each one ounce.

Beat them together into a powder.
Edinb.

Take of

Cinnamon,

Lesser cardamom seeds,

Ginger,—each two ounces.

Beat them together into a powder.

Both these compositions are agreeable, hot, spicy medicines; and may be usefully taken in cold phlegmatic habits, and decayed constitutions, for warming the stomach,

promoting digestion, and strengthening the tone of the viscera. The dose is from ten grains to a scruple and upwards. The first is considerably the warmest, by the introduction of the long pepper.

PULVIS DIGESTIVUS.

Digestive powder.

Take of

Vitriolated magnesia,
Rhubarb,—each equal parts.

The salt quickens the purgative effect of the rhubarb, whilst the rhubarb increases the tone of the stomach: hence it is supposed to assist the digestive powers, at the same time that it empties the intestines.

PULVIS DYSENTERICUS.

Dysenteric powder.
Edinb.

Take of

Rhubarb, one ounce;
Calcined hartshorn, half an ounce;
Gum Arabic, three drams;
Cascarilla bark, two drams.

Mix and reduce them to a very fine powder.

In this composition is united to a *tonic purgative* a *still stronger tonic* in the cascarilla; an *absorbent*; and a *demulcent*; the powers of which will render it a very useful medicine in dysenteric cases, after the violence of the disease is conquered; and when there remains a debilitated and abraded state of the intestines.

PULVIS FUMALIS.

Fumigation powder.

Take of

Olibanum,
Amber,
Mastic,—each three parts;
Srorax, two parts;
Benzoin and Labdanum, each one part.

Its title expresses its use, giving out on burning a fragrant odour, to counteract offensive smells, fumigating a sick room; and counter-

acting putrid or other noxious vapours diffused in the atmosphere.

PULVIS ARTHRITICUS AMARUS.

Bitter gout powder.
Paris.

Take of

Gentian root,
Round birthwort root,
Rhapontic root,
Germander leaves,
Groundpine leaves,
Lesser centaury tops,—of each equal parts.

Make them into a powder.

Compositions of this kind were in use among the ancient Greek physicians, and made a considerable part of their practice in gouty and arthritic complaints. But while they bestow great praises on them in cold and phlegmatic constitutions, they very properly condemn them as being extremely hurtful in the hot and bilious. Afterwards, on account probably of the ill consequences arising from their indiscriminate use, these medicines fell into neglect, till the introduction of the Greek volumes into the western parts of Europe, when they were transcribed by some of the earlier medical writers, and brought into some esteem in Italy, Germany, Switzerland, &c. A form differing from the above only in the omission of the rhapontic root, was some years ago brought thence, as a family receipt, by a person of high rank, who having experienced remarkable benefit from it in an hereditary gout, ordered it to be printed, and copies delivered to all who should ask for them. (See the Medical Observations and Inquiries, published by a society of physicians in London, vol. i. p. 126.) The directions for using this medicine are to the following effect:

“ Take one dram of the powder
“ every morning fasting, in a cup
“ of any agreeable liquor, fasting
M m

“ an hour and a half after it.—
 “ Continue this for three months
 “ without interruption, then di-
 “ minish the dose to three quarters
 “ of a dram for three months
 “ longer, then to half a dram for
 “ six months more. After the first
 “ year, it will be sufficient to take
 “ half a dram every other day.
 “ As this medicine operates in-
 “ sensibly, it will take perhaps
 “ two years before any great be-
 “ nefit is received. In rheuma-
 “ tisms that are only accidental, a
 “ few of the dram doses may do :
 “ but in habitual rheumatisms,
 “ and such as are of long standing,
 “ it must be taken as for the gout.
 “ The remedy requires patience, as
 “ it operates but slow in both
 “ cases.”

Dr. CLEPHANE remarks (in the learned and judicious paper above referred to) that this medicine will probably do good in many cases, for in many cases there is reason to believe it extremely proper; but that an indiscriminate use of it will probably again do what a like abuse formerly did, bring a good medicine into disrepute.

PULVIS NITROSUS.

Nitrous powder.

Take of

Purified nitre, three ounces ;
 Salt of sorrel, one ounce ;
 Double refined sugar, ten ounces.

Let them be mixed.

This is a very convenient and agreeable form of exhibiting nitre ; for, whilst the sugar serves to divide and diffuse it, it corrects its taste, and the salt of sorrel adds to its cooling power.

PULVIS CARMINATIVUS.

Carminative powder.

Take of

Aniseed,
 Sweet fennel seed,—each two scruples ;
 Ginger, one scruple ;

Nutmegs, half a scruple ;
 Fine sugar, half a dram.

Reduce them into a powder, for four doses.

This powder is employed for *expelling flatulencies arising from indigestion*, particularly those to which hypochondriacal and hysterical persons are subject. It is likewise usefully given in the *gripes of young children*, either mixed with their food or otherwise.

PULVIS DIURETICUS.

Diuretic powder.

Take of

Purified nitre, ten grains ;
 Salt of amber, four grains ;
 Oil of turpentine, three drops ;
 Fine sugar, one scruple.

Drop the oil upon the sugar, then add the salts, and grind the whole together.

This powder is a very *efficacious diuretic*, and may be given to advantage in cases where the assistance of such forcing medicines is required. The salts somewhat abate the heating quality of the oil, and, at the same time, cool and relax the passages.

PULVIS ROBORANS.

Strengthening powder.

Take of

Extract of Peruvian bark, twelve grains ;
 Salt of steel, two grains ;
 Oil of cinnamon, one drop ;
 Fine sugar, half a dram.

Having mixed the oil with the sugar, add the other ingredients, and grind the whole well together, for two doses.

This medicine has a much better title to the appellation of a strengthener, than those usually met with under that name in Dispensatories. In *lax habits, debilities of the nervous system, and the weaknesses peculiar to either sex*, it has generally good effects.

PULVIS ad STRUMAS.

Powder against the king's evil.

Take of

Burnt sponge, one scruple;

Nitre,

Coralline,

Fine sugar,—each half a scruple.

Reduce them into powder.

This powder is recommended in *scrophulous disorders* and *obstructions of the glands*. It is supposed to open and deterge the minute vessels, and carry off the offending matter by urine. Dr. MEAD informs us, in his *Monita Medica*, that he very frequently experienced its good effects. He used to give the quantity above prescribed twice a day, with three or four glasses of the less compounded lime-water along with each dose. If the patient were much emaciated, the lime-water was mixed with about an equal quantity of milk.

PULVIS VERMIFUGUS.

Vermifuge powder.

Take of

1.

Tansy flowers,

Worm-seed,—each three drams;

Salt of steel, one dram.

Make them into a powder.

Take of

2.

Tin reduced into fine powder,
two drams;

Æthiops mineral, half a dram;

Fine sugar, one scruple.

Mix them well together.

Take of

3.

Choice rhubarb, three drams;

Scammony,

Calomel,—each one dram.

Mix and make them into a powder.

All these compositions are well calculated for the purpose expressed in the title. The first is given in the hospitals, in doses of half a dram twice a day; which quantity contains about four grains and a half of the salt of steel. The second is divided into three or four doses; one of which is taken every morning, and a cathartic on the day following. The third, which is a brisk purgative, is used in the quantity of half a dram, after the others have been premised; or it is taken once or twice a week without their assistance.

CHAPTER II.

TROCHES AND LOZENGES.

TRUCHES and lozenges are composed of powders made up with glutinous substances into little cakes, and afterwards dried. This form is principally used for the more commodious exhibition of certain medicines, by fitting them to dissolve slowly in the mouth, so as to pass by degrees into the stomach. Hence these preparations have generally a considerable proportion of sugar, or other materials grateful to the palate. Some powders have likewise been reduced into troches, with a view to their preservation; though possibly for no very good reasons; since the moistening, and afterwards drying them in the air, must in this light be of greater injury, than any advantage accruing from this form can counterbalance.

General rules for making troches.

I.

The three first rules laid down for making powders, are also to be observed in the powders for troches.

II.

If the mass prove so glutinous as to stick to the fingers in making up, the hands may be anointed with any convenient sweet or aromatic oil; or sprinkled with powder of starch, or with that of liquorice.

III.

In order to thoroughly dry the troches, put them on an inverted sieve, in a shady, airy place, and frequently turn them.

IV.

Troches are to be kept in glass

vessels, or in earthen ones well glazed.

TROCHISCI AMYLI.

Lond.

TROCHISCI ARABICI.

Edinb.

vulgo

TROCHISCI BECHICI ALBI.

Troches of starch.

Lond.

Take of

Double refined sugar, a pound and a half;

Starch, an ounce and a half;

Liquorice, six drams;

Florence orris root, half an ounce.

Reduce these ingredients into powder, which is to be made up into troches with a proper quantity of mucilage of gum tragacanth.

Edinb.

Take of

White sugar, one pound;

Gum arabic, four ounces;

Starch, one ounce.

Reduce them to a fine powder, and make them into a mass with rose water, and form them into troches.

These compositions are very agreeable pectorals, and may be used at pleasure. They are calculated for *softening acrimonious humours*, and *allaying the tickling in the throat*, which provokes coughing.

TROCHISCI GLYCYRRHIZÆ.

Lond. Edinb.

vulgo

TROCHISCI BECHICI NIGRI.

Troches of liquorice.
Lond.

Take of

Extract of liquorice,
Double-refined sugar,—each ten
ounces;
Gum tragacanth, powdered,
three ounces.

Rub them together, and drop upon
them so much water as will make
the mass soft enough to be form-
ed into troches.

Edinb.

Take of

Extract of liquorice,
Gum arabic,—each four ounces;
White sugar, eight ounces.

Dissolve them in boiling water, and
strain; afterwards evaporate the
liquor with a gentle fire, to a
proper consistence to be made in-
to troches.

These compositions are designed
for the same purposes as the white
pectoral troches before described.
In foreign Pharmacopœias there
are some other troches of this kind,
under the titles of *trochisci bechici*
flavi and *rubri*; the former are
coloured with saffron, the latter
with bole armenic. The dissolv-
ing and straining of the extract of
liquorice and gum arabic, as now
ordered in the latter of these pre-
scriptions, is a considerable im-
provement; not only as they are
by those means more uniformly
mixed than they can well be by
beating; but likewise as they are
thereby purified from the heteroge-
neous matters, of which both those
drugs have commonly no small ad-
mixture.

TROCHISCI de MINIO.

Red lead troches.

Take of

Red lead, half an ounce;
Muriated quick-silver, one
ounce;
Crumb of the finest bread, four
ounces,

Make them up with rose-water in-
to oblong troches.

These troches are employed only
for external purposes as escharotics.
They are powerfully such, and
require a good deal of caution in
their use.

TROCHISCI CRETÆ.

*Lond. Edinb.**vulgo*

TABELLÆ CARDIALGICÆ.

*Troches of chalk.**Lond.*

Take of

Chalk prepared, four ounces;
Crabs' claws, prepared, two
ounces;
Cinnamon, half an ounce;
Double refined sugar, three
ounces.

Rub them to powder, and with
mucilage of gum arabic make
troches.

Edinb.

Take of

Chalk, prepared, four ounces;
Gum arabic, one ounce;
Nutmeg, one dram;
Double refined sugar, six ounces.

Let them be well mixed together in
powder, and with the addition
of water, make them into
troches.

TROCHISCI MAGNESIÆ.

*Troches of magnesia.**Lond.*

Take of

Calcined magnesia, four ounces;
Double refined sugar, two
ounces;
Ginger, powdered, one scruple.

Rub them together, and with mu-
cilage of gum arabic make them
into troches.

These troches are intended for
relieving pains in the stomach,
arising from acidities: in the for-
mer, the union of the acid is said
to form a restraining; with the
latter, a purgative salt: according
to the state of the patient's bowels

with regard to costiveness or laxity, one or other of them may be administered.

TROCHISCI NITRI.

Troches of nitre.

Lond. Edinb.

Take of

Nitre purified, four ounces;

Double refined sugar, one pound;

Tragacanth, powdered, six ounces.

Rub them together, and make troches.

This is a very agreeable form for the exhibition of nitre; though, when the salt is thus taken without any liquid (if the quantity be considerable), it is apt to occasion uneasiness about the stomach, which can only be prevented by large dilution with aqueous liquors. In some cases of difficult deglutition, these troches have been said to be employed with success.

TROCHISCI E SCILLA.

Troches of squills.

Take of

Baked squills, half a pound;

Wheat flower, four ounces.

Beat them together, and form the mass into troches, which are to be dried with a gentle heat.

This preparation is used only as an ingredient in the theriaca. The design of baking the squills is, to abate their acrimony; and making it afterwards into troches seems the most convenient way of drying it. Common wheat flour is as fit for this purpose as any, though that of the white vetch has been generally directed.

TROCHISCI SULPHURIS.

Troches of sulphur.

Lond.

Take of

Flowers of sulphur, washed, two ounces;

Double refined sugar, four ounces.

Beat them together, and adding some mucilage of quince seeds, form them into troches.

These troches can only be considered as an agreeable formula for sulphur, no alteration taking place in that substance.

TROCHISCI GLYCYRRHIZÆ CUM OPIO.

Troches of liquorice, with opium.
Edinb.

Take of

Purified opium, two drams;

Tincture of Tolu, half an ounce.

Let the opium be well rubbed with the tincture, until it is totally dissolved; then gradually add, of simple syrup, eight ounces; extract of liquorice, softened with warm water, five ounces.

Whilst beating them diligently, sprinkle gradually in five ounces of powdered gum arabic. Dry them so as to form troches, each weighing ten grains. Six of these troches contain one grain of opium.

Added to the effects of these viscid matters in tickling coughs depending upon irritation of the fauces, which they relieve by involving acrid humors, or lining and defending the membranes from their stimulus;—opium must, most undoubtedly, have a considerable share, by more immediately diminishing the irritability of the parts themselves.

TROCHISCI CATECHU.

Troches of Catechu.

Take of

Japan earth, two ounces;

Gum tragacanth, half an ounce;

White sugar, one pound;

Rose-water, a sufficient quantity.

Make them into troches.

A preparation of this kind, with the addition of ambergris and musk, which are here more prudently omitted, has long been in some esteem as a mild *refrigerant*.

&c. under the title of CATECHU. Medicines of this class in general are excellently fitted for the form of troches; for, when slowly and gradually received into the stomach, as this form occasions them to be, they produce much better effects, than if an equal quantity were taken at once. The troches of catechu are sufficiently palatable, and of considerable service in some kinds of coughs, thin acrid defluxions, diarrhoeas, &c.

TRICHISCI ANTHELMINTICI.

Anthelmintic or worm sugar-cakes.

Take of

- 1
Powdered tin, half a dram;
Fine sugar, half an ounce;
Rose-water, a sufficient quantity
to make them into a mass for
tablets.

Take of

2

- Scammony,
Calomel,—each four grains;
Fine sugar, half an ounce;
Rose-water, a sufficient quantity
to make them into tablets.

These compositions are calculated for children, who are not easily prevailed on to take anthelmintic medicines in less agreeable forms. If the first be made use of, it must be repeated three or four mornings successively, after which a purge is to be taken: the second, if it require repetition, is to be given only every other morning. The proportions of the ingredients are to be varied, according to the age and strength of the patient.

TRICHISCI SIALAGOGI.

Sialagogue troches.

Take of

- Pellitory of Spain, half an ounce;
Mastich, two drams;
Oil of cloves and marjoram, each
one dram;
Yellow wax a sufficient quantity.

Make them into troches or pellets.

One of these troches is to be occasionally held in the mouth, and chewed, to promote a discharge of saliva; which they effect by warming and stimulating the salival glands.

TRICHISCI STOMACHICI.

Stomachic troches.

Take of

- Hard extract of Peruvian bark,
one dram;
Oil of cinnamon,
Oil of mint,—each ten drops;
Fine sugar, four ounces.

Make them into troches, with mucilage of gum tragacanth.

These troches are of service for warming and strengthening the stomach, expelling flatulencies, and promoting digestion. For these purposes they are as effectual as any thing that can well be contrived in this form.

TRICHISCI SUAVEOLENTES.

Sweet-smelling troches.

Take of

- Strained storax, one scruple;
Ambergris, fifteen grains;
Musk, seven grains;
Oil of cinnamon, six drops;
Fine sugar, one ounce.

Make them into small troches with mucilage of gum arabic.

CHAPTER III.

PILLS.

TO this form are peculiarly adapted those drugs which operate in a small dose; and whose nauseous and offensive taste or smell require them to be concealed from the palate.

Pills dissolve the most difficultly in the stomach, and produce the most gradual and lasting effects, of all the internal forms. This is in some cases of great advantage; in others it is a quality not at all desirable, and sometimes may even be of dangerous consequence; particularly with regard to emetics, which, if they pass the stomach undissolved, and afterwards exert themselves in the intestines, operate there as violent cathartics. Hence emetics are, among us, scarce ever given in pills. And hence to the resinous and difficultly soluble substances, saponaceous ones ought to be added, in order to promote their solution.

Gummy resins and *inspissated juices* are sometimes soft enough to be made into pills, without addition. Where any moisture it requisite, spirit of wine is more proper than syrups or conserves, as it unites more readily with them, and does not sensibly increase their bulk.—*Light dry powders* require syrup, or mucilages:—and the more ponderous, as the mercurial and other metallic preparations, thick honey, conserve, or extracts.

Light powders require about half their weight of syrup, and of honey about three-fourths their weight, to reduce them into a due consistence for forming pills. Half

a dram of the mass will make five or six pills of a moderate size.

General rules for making pills, from the Edinburgh Pharmacopæia.

I.

The three first rules, formerly laid down for making powders, are here also to be carefully observed.

II.

Gums and inspissated juices are to be first softened with the liquid prescribed: then add the powders, and continue beating them all together till they are perfectly mixed.

III.

The masses for pills are best kept in bladders, which should be moistened, now and then, with some of the same kind of liquid with which the mass was made up, or with some proper aromatic oil.

PILULÆ ALOETICÆ.

Aloetic pills.

Edinb.

Take of

Socotorine aloes in powder,
Hard extract of gentian, — each
two ounces.

Make them into a mass with simple syrup.

PILULÆ ALOES COMPOSITÆ.

Compound aloetic pills.

Lond.

Take of

Socotorine aloes powdered, one
ounce;

Extract of gentian, half an
ounce;

Oil of caraway, two scruples;
Syrup of ginger, as much as is
sufficient.

Beat them together.

These compositions have been
in use for some time, as a deob-
struent in *cachectic indispositions*.
They are administered as warming
and stomachic laxatives, and are
used in jaundice, and in cures of
obstructed menses. They are sel-
dom given for full purging; but if
that should be required, a scruple
or half a dram of the mass is di-
rected to be made into pills of a
moderate size for one dose.

PILULÆ de JALAPPA.

Jalap pills.

Take of

Extract of jalap, two ounces;
Aromatic species, half an ounce;
Simple syrup, enough to make
them into a mass.

This is an useful and active pur-
gative, operating in the same man-
ner as the *pulvis jalappæ compositus*.
One of the same kind, with powder-
ed jalap in substance instead of the
extract, is used in some of our hospi-
tals, as a cheap and effectual purge.

PILULÆ E SCAMMONIO CUM ALOE.

Pills of scammony with aloes.

Take of

Socotorine aloes, one dram;
Aromatic species, half a dram;
Scammony, one scruple;
Soft extract of liquorice, as much
as is sufficient to reduce them
into a mass of a due consist-
ence for being formed into
pills,

This warm purgative is recom-
mended for removing the crudities,
&c. after a surfeit or debauch, and
for preventing arthritic and other
complaints incident to those who
live high. The quantity above de-
scribed may be made into thirty
pills, of which five or six are to be
taken for a dose.

PILULÆ CUPRI.

Copper pills.

Edinb.

Take of

Ammoniacal copper, sixteen
grains;

Crumb of bread, four scruples;

Water of ammonia, sufficient to
form it into a mass, which let
be divided into thirty-two equal
parts.

This preparation is considered
as the mildest of the cuprous sa-
line preparations, and has been re-
commended in epilepsy, and hy-
steria, as a powerful tonic. See
CUPRUM, *Materia Medica*.

PILULÆ ALOES CUM COLOCYNTHIDE;

vulgo

PILULÆ COCCIÆ.

Aloetic pills with colocynth.

Take of

Socotorine aloes,

Scammony,—each two ounces;

Colocynth, one ounce;

Vitriolated kali sulphurated,

Oil of cloves,—of each two
drams.

Let the vitriolated kali sulphurat-
ed be separately reduced into
powder; then mix in the oil,
and make the whole into a mass
with syrup of buckthorn.

Let the aloes and scammony with
the kali be reduced to powder,
then the colocynth rubbed into a
very fine powder, and the oil be
mixed together: finally make it
into a mass with mucilage of
gum arabic.

By the diminution of coloquin-
tida in this prescription, the ingre-
dients are reduced to the propor-
tions wherein they are set down in
the original of Galen; and what
is of greater consequence, the me-
dicine becomes less ungrateful to
the stomach, and less virulent in
its operation. Half a dram of the
mass contains nearly four grains of

coloquintida, eight of aloes, and eight of scammony.

**PILULÆ ECPHRACTICÆ
PURGANTES.**

Purging deobstruent pills.

Take of

Socotorine aloes,
Extract of black hellebore,
Scammony,—each one ounce;
Gum ammoniacum,
Resin of guaiacum,—each half
an ounce;
Vitriolated tartar, two drams;
Essential oil of juniper berries,
one dram.

Beat them into a mass, with a sufficient quantity of syrup of buckthorn.

This composition may be given, from eight or ten grains to a scruple or half a dram, according as it is intended to keep the belly open or to purge. Half a dram of the mass contains about six grains of each of the capital purgative ingredients; aloes, scammony, and extract of hellebore.

In the former London Dispensatory there used to be a formula for the *pilulæ ecpfraccticæ*, and *pilulæ aromaticæ*, which was one of the ingredients in the ecpfracctic pills; the places of these are supplied, the first by the *pulvis aloes cum ferro*, and the second by the *pulvis aloes cum guaiaco*. See POWDERS.

PILULÆ FÆTIDÆ.

Fetid pills.

Take of

Asafœtida,
Russian castor,—each one dram
and a half;
Camphor, half a dram;
Oil of hartshorn, twenty-four
drops.

Beat the camphor with the asafœtida, then add the castor and oil of hartshorn, and make the whole into a mass.

These pills are well calculated to counteract spasmodic affections

of the alimentary canal, especially those connected with flatulence.

**PILULÆ GALBANI COM-
POSITÆ;**

formerly

PILULÆ GUMMOSÆ.

*Compound galbanum pills,
Lond.*

Take of

Galbanum,
Opoponax,
Myrrh,
Sagapenum,—each one ounce;
Asafœtida, half an ounce.

Make them into a mass with syrup of saffron.

**PILULÆ ASÆFETIDÆ
COMPOSITÆ;**

vulgo

PILULÆ GUMMOSÆ,

*Compound asafœtida pills.
Edinb.*

Take of

Asafœtida,
Galbanum,
Myrrh,—each one ounce;
Oil of amber, rectified, one dram.
Make them into a mass with simple
syrup.

All these pills are designed for *antihysterics* and *emmenagogues*, and very well calculated for answering those intentions: half a scruple, a scruple, or more, may be taken every night or oftener. The fetid pills of our former Pharmacopœias were considerably purgative. The purgative ingredients are now omitted, as the physician may easily, in extemporaneous prescription, compound these pills with cathartic medicines, in such proportions as particular cases shall require.

The following compositions are calculated for the same intentions as the foregoing deobstruent, fetid, and gum pills.

Take of

Asafœtida,
Wood-foot,
Myrrh,—each two ounces;

Oil of amber, one dram and a half;

Syrup of sugar, a sufficient quantity.

Mix and make them into a mass, according to art.

Take of 2.

Asafoetida, one dram;

Martial flowers, half a dram;

Oil of amber, eight drops;

Balsam of Peru, a sufficient quantity to reduce them into a mass.

Take of 3.

Asafoetida,

Gum ammoniacum,

Myrrh,

Aloes,

Rust of steel prepared,

Extract of gentian,—each one scruple;

Syrup of ginger, as much as will make the other ingredients into a mass.

Take of 4.

Galbanum, one dram;

Salt of steel, half a dram;

Asafoetida,

Aromatic species, — each one scruple;

Tincture of myrrh, as much as will make them into a mass.

In hysterical disorders, after bleeding and purging, where a sanguine and plethoric habit indicates these evacuations, chalybeate medicines are in general the most to be relied upon; especially when joined, as in these compositions, with bitters and deobstruent gums. At first taking, they are apt to increase the complaints (as the experienced Sydenham observes), and occasion great disorders both of body and mind; which, however, soon go off, or may be relieved by a proper dose of opium given at bed-time. A dram of either of the masses is to be made into twelve pills, one or two of which may be taken for a dose, twice or thrice a day.

PILULÆ HYDRARGYRI.

Edin. and Lond.

vulgo

PILULÆ MERCURIALES.

Quicksilver pills.

Edinb.

Take of

Quicksilver,

Manna,—of each one ounce;

Liquorice powder, two ounces.

Rub the quicksilver with the manna in a glass mortar, till the mercurial globules cease to appear, adding a little mucilage of gum arabic occasionally; afterward add the liquorice powder, and with a little water beat it into a mass, and form it immediately into four hundred and eighty pills.

Lond.

Take of

Purified quicksilver, two drams;

Conserve of roses, three drams;

Liquorice fine powdered, one dram.

Grind the quicksilver with the conserve, until the globules disappear; then add the liquorice powder, and mix them together.

By these pills we have one of the best modes of giving mercury in its most simple form; by which means, we can throw a larger proportion of quicksilver into the system, without producing salivation, than by any other means; and upon this circumstance very often our success depends in obstinate venereal cases. Of these pills may be given from two to four or six in a day, according to the effect we wish to produce.

PILULÆ de GAMBOGIA.

Gamboge pills.

Take of

Socotorine aloes,

Extract of black hellebore,

Gamboge,

Mercurius dulcis,—each two drams;

Essential oil of juniper berries,
half a dram;

Syrup of buckthorn, a sufficient
quantity.

Beat them into a mass.

This is a strong mercurial purgative, in which the mercurial preparation is not liable to the uncertainty with which the crude quicksilver is accompanied in the foregoing compositions. The dose is from ten or fifteen grains to half a dram. This last quantity contains of aloes, extract of hellebore, gamboge, and mercurius dulcis, about five grains each.

PILULÆ HYDRARGYRI
MURIATI MITIS,

five
CALOMELANOS COMPO-
SITÆ;

vulgo
PILULÆ PLUMMERI.

*Mild muriated quicksilver pills, or
compound pills of calomel.*

Take of

Mild muriated quicksilver,
Sulphur of antimony, precipi-
tated,—each six drams;

Extract of gentian,

White Spanish soap,—of each
two drams.

Let the mild muriated quicksilver be rubbed with the sulphur, and well mixed; afterwards let the extract and soap be added, and beat into a mass with simple syrup.

These pills have long been considered as a very useful alterant, and bore formerly a very high character in that point of view; but it has been thought by some, that every good purpose to be answered by these pills, might be more readily procured by the common mercurial pill, or from calomel in a more simple state.

PILULÆ ÆTHIOPICÆ.

Æthiopic pills.

Take of

Quicksilver, six drams;

Honey, half an ounce;

Precipitated sulphur of anti-
mony,

Gum guaiacum powdered,—of
each half an ounce.

Rub the quicksilver with the honey in a glass mortar, till the mercurial globules cease to appear; afterwards add the sulphur of antimony and guaiacum, and make it into a mass with the mucilage of gum Arabic.

These pills are much more efficacious than those of a former edition; the æthiops mineral, there ordered, being exchanged for a more active composition. In their present form, they resemble Dr. Plummer's pills, described in the Edinburgh Essays, to which they are preferable in one respect, that they are less apt to run off by stool. They are an useful alterative both in cutaneous and venereal disorders. One fourth part of the quantity above prescribed may be made into sixty pills; of which, from one to four may be taken every night and morning, the patient keeping moderately warm during the whole time that this course is continued.

I shall here insert some other formulæ of mercurial pills, which may be occasionally had recourse to, and of which the greater part has been kept as secrets in particular hands.

Take of

Crude quicksilver,

Hard extract of guaiacum,—each
one dram and a half;

Essential oil of saffrafras, twenty
drops;

Venice turpentine, a sufficient
quantity.

Grind the quicksilver with the turpentine, till they are perfectly incorporated. Then add the other ingredients, and reduce the whole into an uniform mass,

which is to be made into forty pills. Two, three, or more of these may be taken for a dose.

Take of 2.

Calomel,
Prepared chalk,—each one scruple;

Mucilage of gum Arabic, a sufficient quantity.

Make them into twelve pills, of which the dose is from one to three.

Take of 3.

Calomel, half a scruple;
Softer extract of guaiacum, one dram;

Essential oil of sassafras, ten drops.

Mix, and make them into a mass, for twenty pills; the dose of which is from one to six.

Take of 4.

Calomel, half a scruple;
Camphor, half a dram;

Soft extract of guaiacum, as much as is sufficient to make them into a mass, which is to be formed into twenty pills: the dose is from one to six.

Take of 5.

Calomel, half a scruple;
Venice turpentine, as much as will reduce it into a mass of a proper consistence; which is to be formed into five pills, for as many doses.

Take of 6.

Hydrargyrus calcinatus,
Purified opium, — each two grains;

Balsam of Peru, as much as will make them into a mass; which is to be formed into two pills, for two doses.

Take of 7.

Vitriolated quicksilver, two scruples;

Purified opium, one scruple;

Mucilage of gum Arabic, as much as is sufficient to reduce them into a mass, which is to

be formed into twenty pills, for as many doses.

The *mercurius corallinus* may be made into pills in the same manner, and taken in the same dose.

Take of 8.

Calomel, half a scruple;

Crude antimony, finely levigated, one dram;

Conserve of orange-peel, as much as will reduce them into a mass.

This is to be formed into ten pills.

The dose is from one to three.

Take of 9.

Calomel,

Precipitated sulphur of antimony,—each five grains;

Socotorine aloes, fifteen grains;

Balsamic syrup, a sufficient quantity to reduce them into a mass; which is to be made into five pills, for as many doses.

The method of managing these mercurial medicines, as alteratives, is, to give small doses every morning and evening; and rather prolong the time of continuing their use, than increase the dose. The patient ought to keep warm, and drink of warm diaphoretic liquors; as infusion of sassafras, decoction of the woods, the simple or compound lime-water, &c.

PILULÆ E STYRACE.

Storax pills.

Take of

Strained storax, two ounces;

Saffron, one ounce;

Strained opium, five drams.

Beat them together till perfectly united.

These are contrived for dissolving more slowly in the stomach than the saponaceous pills, and consequently for producing more gradual and lasting effects. One grain of opium is contained in five grains and four-fifths of a grain of the mass.

PILULÆ PECTORALES.

*Pectoral pills.**Edinb.*

Take of

Gum ammoniacum, half an ounce;

Balsam of Tolu, two drams;

Flowers of benzoin,

English saffron,—each one dram;

Common syrup, a sufficient quantity.

Make them into a mass according to art.

This composition is very well contrived for promoting expectoration, and may be usefully given in common colds, and in difficulty of breathing proceeding from viscid phlegm: the dose is from six or eight grains to a scruple or more. It is here considerably improved. The balsam of Tolu is introduced in the room of myrrh, the flowers of benzoin for benzoin in substance; and anisated balsam of sulphur, which encumbered the old form, is omitted. Here it may be observed, that though several compositions be denominated pectorals, they are nevertheless in virtue very dissimilar. Thus the pectoral decoction, the syrup, and the troches, are calculated for softening, lubricating, and incrassating thin tickling humours; whilst the pectoral pills, the elixir, and the oxymel, tend to stimulate and deterge the vessels, and attenuate or dissolve thick, tenacious juices.

PILULÆ ALOES CUM MYRRHA;

vulgo

PILULÆ RUFI.

*Aloetic pills and myrrh.**Lond.*

Take of

Socotorine aloes, two ounces;

Myrrh,

Saffron,—each one ounce.

Rub the aloes and myrrh separately, then make them into a mass with syrup of saffron.

Edinb.

Take of

Socotorine aloes, two ounces;

Myrrh, one ounce;

Saffron, half an ounce.

Beat them into a mass with a proper quantity of common syrup.

The virtues of this medicine may be easily understood from its ingredients. The pills, given to the quantity of half a dram or two scruples, prove considerably cathartic; but they answer much better purposes in smaller doses as laxatives or alteratives.

PILULÆ RHÆI COMPOSITÆ;

vulgo

PILULÆ STOMACHICÆ.

*Compound rhubarb pills.**Edinb.*

Take of

Rhubarb, one ounce;

Socotorine aloes, six drams;

Myrrh, half an ounce;

Vitriolated tartar, one dram;

Essential oil of mint, half a dram;

Syrup of orange-peel, a sufficient quantity.

Make them into a mass.

This pill is intended for moderately warming and strengthening the stomach, and evacuating crude viscid humours. A scruple of the mass may be taken twice a day.

PILULÆ SCILLÆ;

formerly

PILULÆ SCILLITICÆ.

*Squill pills.**Lond.*

Take of

Powdered ginger,

Spanish soap,—each three drams;

Gum ammoniacum, two drams;

Fresh dried squill, powdered, one dram.

Beat them together.

PILULÆ EX HYDRARGYRO MURIATO.

Muriated quicksilver pills.

Take of

Muriated quicksilver,

Purified sal ammoniac,—each one scruple;

Distilled water, as much as is sufficient to melt them;

Powder of marshmallow root, sixteen scruples;

Honey, two drams.

Mix them into a mass, and form pills, each weighing three grains.

Each of these pills contains about an eighth of a grain of muriated quicksilver; which may be given with equal safety, as certain efficacy, and are less offensive to the taste than the *solutio hydrargyri muriati*, to which the reader is referred.

These are elegant and commodious forms for the exhibition of squills, whether for promoting expectoration, or in the other intentions to which that medicine is applied. As the virtue of the compounds is chiefly from the squills, the other ingredients are often varied in extemporaneous prescription. The difference betwixt the two is very trifling: the soap can be of no great use, considering the quantity in which it is exhibited in this compound; and the proportion of the squills in the London formula, is one part to eight, whilst that of Edinburgh is one to nine.

PILULÆ SCILLITICÆ.

Squill pills.

Edinb.

Take of

Gum ammoniacum,

Lesser cardamom seeds, in powder,

Extract of liquorice,—of each one dram;

Squills, dried, and finely powdered, one scruple.

Mix them well together, and make them into a mass with simple syrup.

PILULÆ EX ELATERIO.

Pills of elaterium.

Take of

Purest gum ammoniac, two ounces;

Socotorine aloes,

Gamboge,—each two drams;

Elaterium, half a dram.

Mix them by means of the compound tincture of gentian, into a mass for the formation of pills, each weighing two grains.

Some have considered these pills to consist of too many powerful purgative ingredients; and have, therefore, advised the elaterium, which is one of our most powerful cathartics, to be formed by itself into pills, with extract of gentian, considered as a corrective to the nauseating property of the elaterium. Each of which pills should contain half a grain of this active material, one or two pills to be taken every hour, till they begin to operate; but it should only be exhibited in those cases when the patient retains a considerable degree of strength.

PILULÆ OPII.

Opium pills.

Lond.

Take of

Hard purified opium, two drams;

Extract of liquorice, one ounce.

Beat them together until they are perfectly united.

Edinb.

Take of

Purified opium, half an ounce;

Extract of liquorice, two ounces;

Spanish soap, an ounce and an half;

Jamaica pepper, an ounce.

Let the opium and extract be softened separately with proof spirit of wine, and beat into a pulp, mix them; then add the soap, and the pepper reduced to powder; and beat them well together into a mass.

In the former of these pills every five grains of the mass contain one of opium; in the latter, nine grains contain near the same quantity.

Either of these will answer the purpose of that more elaborate compound formerly called *pilulæ pacificæ*, of STARKEY, and by him communicated to MATTHEWS; for the whole efficacy of them depended upon the opium; for the other ingredients were prescribed in too trifling quantities to produce any good effect. The soap here is supposed to promote the solution of the opium, and render the action of the opium quicker upon the stomach; and the pepper probably prevents nausea, and makes it sit easier on that organ.

PILULÆ BACHERI.

Bàcher's pills.

Take of

Extract of black hellebore,
Purified myrrh,—of each one ounce;
Powder of cardus benedictus, two scruples.

Mix them into a mass according to art, to be dried in the air till it be fit for the formation of pills, each weighing one grain.

According to circumstances, the doses of these pills are varied from one to thirty in the course of the day. They have been held in high reputation for the cure of the dropsy, where remarkable debility and relaxation attends, on account of the tonic and evacuant power they were thought to possess.

They have, however, by no means supported the reputation they were said to possess, whilst confined as a nostrum within the hands of BACHER.

PILULÆ PICEÆ.

Tar pills.

Take any quantity of tar, and mix with it as much powdered elecampane root as will reduce it to a proper thickness for being formed into pills.

The powder here mixed with the tar, though of no great virtue, is a very useful addition, not only for

procuring it a due consistence, but likewise as it divides the resinous texture of the tar, and thus contributes to promote its solution by the animal juices. In the Edinburgh infirmary, half a dram of the mass, made into middle-sized pills, is given every morning and evening, in disorders of the breast, scurvy, &c.

PILULÆ ROBORANTES.

Strengthening pills.

Take of

1.

Hard extract of Peruvian bark, one dram;
Salt of steel, ten grains;
Oil of cinnamon, five drops;
Balsam of Peru, as much as will reduce them into a mass.

Take of

2.

Olibanum, one dram;
Styptic powder, two scruples;
Salt of steel, one scruple;
Syrup of sugar, a sufficient quantity to make them into a mass.

In a lax state of the fibres, debilities of the nervous system, and some decays of constitution, the first of these compositions is an effectual strengthener and restorative. If the quantity prescribed be made into twenty pills, one or two of these may be taken for a dose, and repeated twice a day. The other is a stronger styptic, and is used for restraining immoderate alvine evacuations, and sanguineous or serous discharges from the remoter parts.

Take of

3.

Aromatic species,
Extract of gentian,—each one dram;
Extract of Peruvian bark, half a dram;
Elixir of aloes, as much as will reduce them into a mass.

These pills are serviceable for warming and strengthening a weak cold stomach, expelling flatulencies, and promoting digestion. If ten pills be made out of a dram of the mass, two may be taken thrice a day, about an hour before meals.

CHAPTER IV.

BOLUSES.

BOLUSES differ little in consistence from electaries, being only somewhat stiffer, so as to retain their figure without spreading or falling flat.

This form is very convenient for the exhibition of the more powerful medicines, which require their dose to be exactly adjusted, as the stronger alexipharmacs, cathartics, and opiates. As boluses are chiefly intended for immediate use; volatile salts, and other materials, which, if the mass were to be kept, would exhale or swell it, are frequently admitted into them.

The quantity of a bolus very seldom exceeds a dram. If the ingredients be of the lighter kind, even this will be too bulky to be commodiously swallowed.

The lighter powders are made up with syrup; a scruple or twenty-six grains of the powder, with as much syrup as will bring it to a due consistence, makes a bolus sufficiently large.

The more ponderous powders, as the mercurial ones, are commonly made up with conserve: syrups scarce holding them together. For the testaceous powders also an addition of conserve is used; though if made up with this alone, they would be too bulky.

Both the light and ponderous powders may be conveniently made up with mucilage, which increases the bulk less than the other additions, and occasions them to pass down more freely.

The officinal Pharmacopœias have

no formula of this kind: most of the following compositions are taken from our hospitals.

BOLUS ALEXIPHARMACUS.

Alexipharmac bolus.

Take of

1.

Compound powder of contrayerva, half a scruple;

Syrup of wild poppies, or saffron, a sufficient quantity to make it into a bolus.

Take of

2.

• Virginian snakeroot, half a scruple;

Confection of kermes, as much as is sufficient.

Mix and make them into a bolus.

Take of

3.

Virginian snakeroot,

Contrayerva root,—each eight grains;

Saffron, three grains:

Syrup of meconium, a sufficient quantity to reduce them into a bolus.

Take of

4.

Virginian snakeroot, fifteen grains;

Castor, ten grains;

Syrup of sugar, as much as is sufficient.

Mix and make them into a bolus.

Take of

5.

Camphor, two grains;

Saffron, five grains;

Cordial confection, one scruple.

Mix and make them into a bolus.

Take of

6.

Camphor, two grains;

Nitre,

Contrayerva root,—each ten grains;

N n

Syrup of clove july-flowers, as much as will make them into a bolus.

Take of 7.
Musk, ten grains;
Cordial confection, one scruple.

Make them into a bolus.

Take of 8.
Musk, ten grains;
Salt of hartshorn, or of ammoniac prepared, five grains;
Thebaic extract, half a grain;
Syrup of saffron, a sufficient quantity.

Make them into a bolus.

These boluses are designed for low depressed fevers, in which medicines of this kind are generally prescribed, for keeping up the *vita*, raising the pulse, and promoting a diaphoresis. The compositions differ in strength, nearly according to the order in which they stand. The two last are of great power, and are designed chiefly for cases accompanied with convulsive symptoms, which are often abated by them.

BOLUS EX ALUMINE.

Alum bolus.

Take of
Alum,
Extract of Peruvian bark,
Nutmeg,—each ten grains;
Simple syrup, as much as will reduce them into a proper consistence for a bolus.

Or,

Take of
Compound powder of alum,
Tragacanth,—each fifteen grains.
Form them into a bolus, with syrup of white poppy.

These are very strong astringents, and used with success in violent uterine hæmorrhages, and other immoderate secretions which require to be speedily restrained.—They may be taken twice a day; or if the flux be very violent, every four or six hours, till it abate.

BOLUS E CAMPHORA.

Camphor bolus.

Take of
Camphor, half a scruple;
Gum arabic, half a dram;
Syrup of marshmallows, a sufficient quantity to make them into a bolus.

This is a very convenient form for the exhibition of camphor: this drug, however, when thus given by itself in large doses, is apt to nauseate the stomach; and rarely has so good effects as when mixed in small quantities with nitre or similar substances, and frequently repeated.

BOLUS E CASTOREO.

Castor bolus.

Take of
Castor, one scruple;
Salt of hartshorn, five grains;
or oil of hartshorn, five drops;
Simple syrup, a sufficient quantity.

Make them into a bolus.

This medicine is given in hysterical and hypochondriacal disorders, and likewise as an alexipharmac in fevers. Its virtues, which are great and unquestionable, seem to depend more upon the fetid animal oil, or volatile salt, than on the drug from which it takes its name.

BOLUS CATHARTICUS.

Purgative bolus.

Take of 1.
Jalap, one scruple;
Jamaica pepper,
Crystals of tartar,—each five grains;
Syrup of buckthorn, as much as will reduce them into a mass of a due consistence.

Take of 2.
Scammony, ten grains;
Soluble tartar, one scruple;
Soft extract of liquorice, a sufficient quantity.

Let the scammony be well ground with the soluble tartar, then add the extract, and make them into a bolus.

Take of 3.

Gamboge,
Crystals of tartar,—each eight grains;
Syrup of ginger, a sufficient quantity to reduce them into a bolus.

Take of 4.

Elaterium, two grains;
Extract of jalap, half a scruple;
Crystals of tartar, one scruple;
Syrup of orange peel, a sufficient quantity to make them into a bolus.

The virtues of these compositions are sufficiently obvious; the first is a mild purgative; the two last too strong to be in general ventured on; and the other of intermediate degrees of strength.

BOLUS CATHARTICUS CUM MERCURIO.

Purgative bolus with mercury.

Take of 1.

Jalap, one scruple;
Calomel, five grains;
Solutive syrup of roses, as much as is sufficient to make them into a bolus.

Take of 2.

Gamboge, seven grains;
Calomel,
Aromatic species,—each half a scruple;
Syrup of buckthorn, a sufficient quantity to make a bolus.

The first of these compositions is a safe and mild mercurial cathartic: the second is too strong for general use.

BOLUS DIAPHORETICUS.

Diaphoretic bolus.

Take of 1.

Compound powder of contrayerva,
Crude sal ammoniac,—each one scruple;
Simple syrup, a sufficient quantity to form them into a bolus.

Take of 2.

Antimonial powder, from two to six grains;

Conserve of hips, a scruple;
Syrup of sugar, sufficient to form a bolus.

Take of 3.

Tartarised antimony, from one quarter to one grain;
Compound powder of crabs' claws, ten grains;
Syrup of marsh mallows, sufficient to form a bolus.

The boluses are given in *fevers*, and *other cases where a diaphoresis is to be promoted*. Sal ammoniac is for this purpose one of the most efficacious of the neutral salts. It requires, however, when thus given in a solid form, to be assisted by warm diluents, frequently repeated; which not only promote its action, but likewise prevent its sitting uneasy on the stomach.

To the antimonial boluses may be added any other of the diaphoretic substances, acids and alkalies excepted, because the first might render the antimonial powder too violent in its operation, and the last would decompose the tartarised antimony, and probably render the precipitated calx inert.

BOLUS DIURETICUS.

Diuretic bolus.

Take of 1.

Fresh squills, six grains;
Compound powder of arum, ten grains;
Ginger, five grains;
Syrup of orange peel, a sufficient quantity.

Make them into a bolus.

This composition is recommended by Dr. MEAD, to be taken every morning in *hydropic cases*, for promoting urine. He observes, that in these disorders, diuretic medicines vary greatly in their effects, those which answer sufficiently in one person, failing in another; and that the squill and its preparations are, of all others, those which most generally succeed.

Take of 2.

Fresh powder of fox-glove, two grains;

Conserve of wormwood, or orange peel, one scruple;

Aromatic powder, four grains;

Syrup of sugar, sufficient to form a bolus.

To be administered twice a day.

The quantity of the fox-glove may be gradually increased to as much as the stomach will bear with ease; if it should prove purgative, it may be joined with opium, or with jalap, if intestinal evacuations are necessary to be promoted. This is esteemed by some practitioners to be one of the most certain diuretics, of which we are in possession, and many proofs have been adduced to prove its efficacy in hydropic cases.

BOLUS AD DYSENTERIAM.

Bolus against the dysentery.

Take of 1.

The cordial confection,

French bole,—each one scruple;

Thebaic extract, one grain.

Make them into a bolus.

This composition is excellently well calculated for the purpose expressed in its title. Dr. MEAD assures us, that he has never found any medicine more effectual, either for *restraining the flux*, or *healing the ulcerated membranes*. Previously to the use of this or other like medicines, the first passages must be cleansed by mild emetics and cathartics, as ipecacuanha and rhubarb.

Take of 2.

Powder of fimarouba, from half a scruple to half a dram;

Syrup of white poppy, sufficient to make a bolus.

This is to be taken three or four times a day, and in some dysenteries, particularly the serosa-bilious, bloody and mucous, is esteemed a specific, by several practitioners, after proper evacuations have been premised. In old obstinate dysente-

ries and diarrhœas brought from warm climates, it has been radically effectual in forming the cure.

BOLUS EMMENAGOGUS.

Emmenagogue bolus.

Take of 1.

Socotorine aloes, eight grains;

Saffron, four grains;

Guinea pepper, two grains;

Oil of favin, two drops;

Conserve of rue, as much as is sufficient to reduce them into a due consistence.

Take of 2.

Salt of steel, one grain;

Myrrh, half a scruple;

Cordial confection, fifteen grains.

Make them into a bolus.

Take of 3.

Black hellebore root, eight grains;

Fresh squills, four grains;

Essential oil of pepper-mint, two drops;

Conserve of orange peel, as much as is sufficient to make them into a bolus.

All these are medicines of great power for promoting or exciting the menstrual flux. The two first are calculated for lax phlegmatic habits; the third, for persons of a sanguine temperament, where chalybeate medicines cannot be borne.

Take of 4.

Powder of favine, from half a scruple to half a dram;

Make it into a bolus with syrup of saffron—to be taken twice a day.

BOLUS FEBRIFUGUS.

Febrifuge bolus.

Take of

Peruvian bark, one scruple;

Cascarilla, half a scruple;

Mucilage of quince seeds, a sufficient quantity to make them into a bolus.

This elegant composition is excellently well adapted to the cure of intermittent fevers; and may be given in cases where the Peruvian bark by itself would be less pro-

per. Where aromatics, chalybeates, bitters, &c. are also requisite, they are either to be premised, or occasionally interposed.

BOLUS HYSTERICUS.

Hysterical bolus.

Take of

Musk,

Asafoetida, each six grains;

Castor, half a scruple;

Syrup of saffron, as much as is sufficient to make them into a bolus.

This medicine is very well contrived for the purpose expressed in its title. It is of great service both in *hysterical* and *hypochondriacal* disorders; and often gives relief in the *depressions*, *faintings*, *stultulent cholics*, *head-achs*, and other symptoms, attending them. It may be taken twice a day, along with any suitable liquor.

BOLUS ILIACUS.

Iliac bolus.

Take of

Cathartic extract, one scruple;

Purified opium, one grain.

Make them into a bolus.

This bolus is prescribed by Dr. MEAD, for easing the pain, and procuring stools, in the *iliac passion*, and *dry belly-ach*; where the irritating cathartics, exhibited by themselves, are thrown up by vomit. The use of this medicine is to be preceded by plentiful bleeding, and accompanied by purgative clysters of the more acrid kind; and its operation promoted by infusion of senna, mixed with a little of the elixir salutis, or tincture of senna.

BOLUS CUM CALOMELANE.

Bolus with calomel.

Take of

Calomel, from five to fifteen grains;

Conserve of roses, half a dram.

Mix and make them into a bolus.

This bolus is given every night, or oftener, for raising a salivation,

in venereal, and other disorders, which require that herculean operation. It is likewise taken at night as an alterative, to be carried off next morning by a cathartic.—Mercurials exhibited in this manner have generally better effects than when joined with purgatives directly.

BOLUS HYDRARGYRI VITRIOLATI.

Bolus with vitriolated quick-silver.

Take of

Vitriolated quick-silver, six grains;

Conserve of roses a sufficient quantity.

Make them into a bolus.

This is a strong emetic, and given in *venereal* and *leprous diseases*; particularly in the case of *foul ulcers of long standing*, the cleansing and cure of which are frequently promoted by it. The violence of its operation limits its use to robust constitutions.

BOLUS PECTORALIS.

Pectoral bolus.

Take of

Spermaceti, fifteen grains;

Gum ammoniacum, ten grains;

Salt of hartshorn, five grains;

Simple syrup, as much as is sufficient.

Mix and make them into a bolus.

In *colds of long standing*, *old coughs*, *asthmas*, and *beginning consumptions*, this bolus generally gives relief; especially if bleeding be premised, and repeated, if necessary, at proper intervals.

BOLUS RHEI CUM CALOMELANE.

Bolus of rhubarb with calomel.

Take of

Choice rhubarb, twenty-five grains;

Calomel, five grains;

Simple syrup, as much as will form them into a bolus.

This is a very mild mercurial purgative. It is given to *destroy worms*, and in *cachectic*, *chlorotic*, and similar disorders.

BOLUS RHEUMATICUS.

Rheumatic bolus.

Take of

Extract of guaiacum, half a dram;

Salt of hartshorn, seven grains;

Simple syrup, a sufficient quantity.

Make them into a bolus.

In *chronical rheumatisms*, whether the remains of a rheumatic fever, or a continuation of pains that proceeded at first from neglected colds, this bolus has been given with good effects, once a week or oftener: the patient keeping warm, and drinking warm liquors, to promote its operation as a *cathartic* and *diaphoretic*. Its use ought to be accompanied by *venæsection*—which is to be repeated every eight or ten days as long as the blood is fizy. This medicine is likewise exhibited in *sciatic*, *arthritis*, and *other pains not accompanied with a fixiness of blood*. In these it much more frequently fails than in the true rheumatism.

BOLUS SCILLITICUS.

Scillitic bolus.

Take of

Fresh squills, twelve grains;

Aromatic powder, half a scruple;

Oil of pepper-mint, one drop.

Beat them well together into an uniform mass, of a due consistence for a bolus.

This is a warm, *stimulating*, and *attenuating* medicine, and may be given to great advantage in cases

where the natural secretions are obstructed or suppressed from a viscosity or sluggishness of the juices. The efficacy of the squills is promoted by the additional ingredients, which at the same time warm and strengthen the stomach and intestines, and prevent the composition from being thrown up by vomit, which this quantity of squills, given by itself, would be in many constitutions.

BOLUS SUDORIFICUS.

Sudorific bolus.

Take of

Camphor, five grains;

Thebaic extract, one grain;

Syrup of orange peel, a sufficient quantity to reduce them into a bolus.

This medicine is one of the *most effectual sudorifics*, generally exciting a copious sweat. In many cases where this intention is to be answered, whether acute or chronic, it may be given to great advantage.

BOLUS TEREBINTHINATUS.

Turpentine bolus.

Take of

Chio turpentine, one scruple;

Powdered liquorice, a sufficient quantity.

Make them into a bolus.

This is a convenient form for the exhibition of turpentine, the liquorice powder answering the same intention here as the elecampane root in the *pilula picæ*.

CHAPTER V.

ELECTARIES.

ELECTARIES are composed chiefly of powders mixed up with syrups, &c. into such a consistence, that the powders may not separate in keeping, that a dose may be easily taken up on the point of a knife, and not prove too stiff to swallow.

Electaries receive chiefly the milder alterative medicines, and such as are not ungrateful to the palate. The more powerful drugs, as *cathartics, emetics, opiates, and the like*, (except in officinal electaries to be dispensed by weight) are seldom trusted in this form, on account of the uncertainty of the dose;—disgustful ones, *acrids, bitters, fetids*, cannot be conveniently taken in it;—nor is the form of an electary well fitted for the more ponderous substances, as *mercurials*, because, they are apt to subside in keeping, unless the composition be made too stiff.

The lighter powders require thrice their weight of honey, or syrup boiled to the thickness of honey, to make them into the consistence of an electary; of syrups of the common consistence, twice the weight of the powders is sufficient.

Where the common syrups are employed, it is necessary to add likewise a little conserve, to prevent the compound from drying too soon. Electaries of Peruvian bark, for instance, made up with syrup alone, will often in a day or two grow too dry for taking.

Some powders, especially those of the less grateful kind, are more conveniently made up with mucilages than with syrups, honey, or

conserve. The three last stick about the mouth and fauces, and thus occasion the taste of the medicine to remain for a considerable time; whilst mucilages pass freely, without leaving any taste in the mouth. A little soft extract of liquorice, joined to the mucilage, renders the composition sufficiently grateful, without the inconveniencies of the more adhesive sweets.

The quantity of an electary directed at a time, in extemporaneous prescription, is rarely less than an ounce, or more than three ounces.

General rules for making electaries.

I.

The rules already laid down for decoctions and powders in general, are likewise to be observed in making decoctions and powders for electaries.

II.

Gums, inspissated juices, and such other substances as are not pulverable, should be dissolved in the liquor prescribed: then add the powders by little and little, and keep the whole briskly stirring, so as to make an equable and uniform mixture.

III.

Astringent electaries, and such as have pulps of fruits in their composition, should be prepared only in small quantities at a time.

For astringent medicines lose greatly of their virtue, on being kept in this form; and the pulps of fruits are apt to become sour.

IV.

The superfluous moisture of the

pulps should be exhaled over a gentle fire, before the other ingredients are added to them.

V.

Electaries, if they grow dry in keeping, are to be reduced to the due consistence, with the addition of a little Canary wine; and not with syrup or honey. By these means, the dose will be the least uncertain; a circumstance deserving particular regard, in those especially which are made up with syrup, and contain a large quantity of opium, as the *confectio opiata*, &c.

ELECTARIUM ad DYSENTERICOS.

Antidysenteric electary.
Edinb.

Take of

Japonic confection, two ounces;

Locatelli's balsam (beaten up with a sufficient quantity of yolk of egg) one ounce;

Powdered rhubarb, half an ounce;

Syrup of marshmallows, a sufficient quantity.

Mix and make them into an electary.

This composition is extremely well contrived for the purpose expressed in its title. Astringents or opiates by themselves rarely have place in dysenteries, even after the first passages have been evacuated by an emetic or a full dose of rhubarb. They ease the pain and moderate the flux for a time, but the short relief is apt to be followed by dangerous or even fatal consequences from the retention of the acrid and corrupted humours. The rhubarb which the college of Edinburgh has now added from the practice of the infirmary, in good measure prevents this accumulation, without much counteracting the salutary effects of the other ma-

terials. In many cases, however, it may be still necessary to interpose that laxative drug by itself. The dose of the electary is the bulk of a large nutmeg, once or twice a day, according to the urgency of the symptoms. One dram contains about one-sixth part of a grain of opium.

ELECTARIUM CASIÆ.

Electary of casia.
Lond.

Take of

Solutive syrup of roses,

Pulp of casia, fresh extracted,—
each half a pound;

*Manna, two ounces;

Pulp of tamarinds, one ounce.

Grind the manna in a mortar, and dissolve it in a water-bath, saturated with sea-salt, in the syrup; then add the pulps, and continue the heat until the whole is reduced to the consistence of an electary.

Edinb.

Take of

Pulp of casia, six ounces;

Tamarinds,

Manna,—of each one ounce and a half;

Syrup of pale roses, six ounces.

Rub the manna with the syrup, in a warmed mortar, and add the pulps; and, with the heat continued, reduce the whole into an electary.

These compositions are very convenient officinals, to serve as a basis for purgative electaries, and similar purposes; as the pulping of a small quantity of the fruits, for extemporaneous prescription, is sufficiently troublesome; the tamarinds give them a pretty taste, and do not subject them, as might be expected, to turn sour: after standing for four months, the composition was found no sourer than when first made up. They are likewise usefully taken by themselves, in the quantity of two or

three drams occasionally, for gently loosening the belly in costive habits.

ELECTARIUM SENÆ.

Lond. Edinb.

formerly

ELECTARIUM LENITIVUM.

Electary of sena.

Lond.

Take of

Figs, one pound;
Sena, eight ounces;
Pulp of tamarinds,
Pulp of casia,
Pulp of French prunes,—each half a pound;
Coriander seeds, four ounces;
Liquorice, three ounces;
Double refined sugar, two pounds and a half.

Pulverise the sena along with the coriander seeds, and sift out ten ounces of the powder. The remainder is to be boiled with the figs and liquorice, in four pints of distilled water, to one half; then strain and press out the liquor, and evaporate it to the weight of a pound and a half. In this dissolve the sugar, so as to make it into a syrup, and add this syrup, by little and little, to the pulps; lastly, mix in the powder.

Edinb.

Take of

Sena leaves, eight ounces;
Coriander seeds, four ounces;
Liquorice root, three ounces;
Figs, one pound;
Pulp of tamarinds,
Casia fistularis,
French prunes,—each half a pound;
Double refined sugar, two pounds and a half.

Proceed as directed in the former process.

These electaries may be occasionally taken to the quantity of a nutmeg or more, for loosening the belly in costive habits. They are

likewise frequently employed in clysters for the same purpose.

ELECTARIUM PECTORALE.

Pectoral electary.

Take of

Rob of elder-berries, two ounces;

Spermaceti dissolved in a sufficient quantity of yolk of egg, half an ounce;

Flowers of benzoine, one dram;
Balsamic syrup, as much as is sufficient to make the other ingredients into an electary.

This is a very useful medicine in tickling coughs and common colds, calculated both to obtund acrimony and promote expectoration. It may be used two or three times a day, in doses of about the quantity of a small nutmeg. Taken to the bulk of a large nutmeg, at bed-time, it generally not only relieves the breast, but tends to procure a salutary diaphoresis or sweat in the night. It is here improved from former editions, by substituting rob of elder-berries for conserve of roses, and spermaceti for compound powder of gum tragacanth.

ELECTARIUM SCAMMONII.

Electary of scammony.

Lond.

Take of

Scammony, in powder, an ounce and a half;

Cloves,

Ginger,—each, six drams;

Essential oil of caraway seeds, half a dram;

Rose syrup, as much as is sufficient.

Let the spices be ground together, and mixed with the syrup; then add the powdered scammony, and afterwards the oil of caraway.

This electary is a warm, brisk purgative. It is a reform of the *electarium caryocoffinum* of our pre-

ceding Dispensatories, a composition which was greatly complained of, as being inconvenient to take, on account of the largeness of its dose. A dram and an half of this, which contains fifteen grains of scammony, is equivalent to half an ounce of the other.

ELECTARIUM CATECHU;

vulgo.

CONFECTIO JAPONICA.

Electary of catechu.

Edinb.

Take of

Extract of catechu, four ounces;

Gum kino, three ounces;

Cinnamon,

Nutmeg,—of each, one ounce;

Opium, dissolved in a sufficient quantity of Spanish white wine, one dram and a half;

Syrup of red roses, boiled to the consistence of honey, two pounds and a quarter.

Mix, and make an electary.

This is an elegant composition, the ingredients forming a cordial, sedative, restraining electary, very applicable in cases of any severe fluxes of the passive kind, where the constitution is reduced to a state of debility, and the spirits rendered low. In active hæmorrhages the aromatics prohibit its use.

BALSAMUM CEPHALICUM.

Cephalic balsam.

Take of

Expressed oil of nutmegs, one ounce;

Distilled oil of cloves,

of lavender,

of rosemary,—each half a dram;

of amber, half a scruple;

Balsam of Peru, one dram.

Liquefy the oil of nutmegs in a silver vessel: and, when taken from the fire, mix into it the distilled oils and the balsam, according to art.

This medicine is recommended

to be rubbed on the temples, and on paralytic limbs, for warming the part and comforting the nerves; and to be smelt to, for refreshing and enlivening the spirits. Some have also given it inwardly as a warm cordial, in languid cases, and in debilities of the nervous system.—

There are abundance of preparations of this kind in foreign Pharmacopœias, composed each of only one essential oil, incorporated with the expressed oil of nutmegs; which last is to be previously freed from its flavour (by distillation with water) that the smell of the former may not be injured thereby. In the room of this prepared sebaceous matter, a mixture of white wax and oil olive might be used. In the *Practical Chemistry*, a general process is given for the making of these kinds of preparations, under the title of

BALSAMUM ODORIFERUM.

An odoriferous balsam.

Take of

Oil olive,

White bees' wax,—each two ounces.

Put the oil into a china basin, placed in a pan of boiling water, and slice the wax into it. Stir them together with a clean knife, or small spatula, till the wax is melted: then remove the vessel out of the hot water, and when the matter begins to thicken, drop in four drams of any odoriferous essential oil, as that of cinnamon, nutmegs, mace, lemon-peel, rhodium, lavender, rosemary, &c. or of a mixture of two or three of the oils; to which may be added one dram of essence of ambergris, which will heighten the smell of the oils without communicating any of its own. Keep the whole constantly stirring, that they may be perfectly mixed; and as soon as this is done, plunge the ves-

fel into cold water, to prevent the dissipation of the essential oils.

These kinds of balsams may be made of any colour, so as to resemble in this respect also, as well as in smell, the vegetable, from which the essential oil, you make use of, was drawn. A little of the pigment, called by the painters *sap-green*, being previously ground with the oil/olive, will give a fine green;—a little *cinnabar*, a scarlet;—*turmeric*, a lemon colour;—*Prussian blue*, a violet;—and *cochineal*, a fine purplish hue.

MITHRIDATIUM, five CON-FECTIO DAMOCRATIS.

Mithridate, or the confection of Damocrates.

Lond.

Take of

Cinnamon, fourteen drams;
Myrrh, eleven drams;
Agaric,
Indian nard,
Ginger,
Saffron,
Seeds of mithridate mustard,
Frankincense,
Chio turpentine,—each ten
drams;
Camels' hay,
Costus, or, in its stead, zedoary,
Indian leaf, or, in its stead,
mace,
Stœchas,
Long pepper,
Hartwood seeds,
Hypocistis,
Storax strained,
Opopanax,
Galbanum, strained,
Opobalsam, or, in its stead, ex-
pressed oil of nutmegs,
Russian castor,—each one ounce;
Poley mountain,
Scordium,
Carpobalsam, or, in its stead, cu-
bebs,
White pepper,
Candy carrot seed,

Bdellium, strained,—each seven
drams;

Celtic nard,

Gentian root,

Dittany of Crete,

Red roses,

Macedonian parsley seed,

Lesser cardamom seeds, husked,

Sweet fennel seed,

Gum arabic,

Opium, strained,—each five
drams;

Calamus aromaticus,

Wild valerian root,

Aniseed,

Sagapenum, strained,—each
three drams;

Meum athamanticum,

St. John's wort,

Acacia, or, in its stead, terra Ja-
ponica,

Bellies of skinks,—each two
drams and a half;

Clarified honey, thrice the weight
of all the other ingredients.

Warm the honey, and mix with it the opium dissolved in wine; melt the storax, galbanum, turpentine, and opobalsam (or expressed oil of nutmegs) together in another vessel, continually stirring them about, to prevent their burning. With these so melted mix the hot honey, at first by spoonfuls, and afterwards in larger quantities at a time. When the whole is grown almost cold, add by degrees the other species reduced into powder.

THERIACA ANDROMACHI.

Venice Treacle.

Take of

Troches of squills, half a pound;
Long pepper,
Opium, strained,
Vipers dried,—each three ounces;
Cinnamon,
Opobalsam, or, in its stead, ex-
pressed oil of nutmegs,—each
two ounces;
Agaric,
Florence orris root,

Scordium,
 Red roses,
 Navew seeds,
 Extract of liquorice,—each an
 ounce and a half;
 Indian nard,
 Saffron,
 Amomum,
 Myrrh,
 Costus, or, in its stead, zedoary,
 Camels' hay,—each one ounce;
 Cinquefoil root,
 Rhubarb,
 Ginger,
 Indian leaf, or, in its stead, mace,
 Dittany of Crete,
 Horehound leaves,
 Calamint leaves,
 Stœchas,
 Black pepper,
 Macedonian parsley seed,
 Olibanum,
 Chio turpentine,
 Wild valerian root,—each six
 drams;
 Gentian root,
 Celtic nard,
 Spignel,
 Poley mountain
 St. John's wort } leaves,
 Groundpine }
 Germander tops, with the seed,
 Carpobalsam, or, in its stead, cu-
 bebs,
 Aniseed,
 Sweet fennel seed,
 Lesser cardamom seeds, husked,
 Bishop's weed
 Hartwort } seeds,
 Treacle mustard }
 Hypocistis,
 Acacia, or, in its stead, Japan
 earth,
 Gum arabic,
 Storax, strained,
 Sagapenum, strained,
 Terra Lemnia, or, in its stead,
 bole armenic or French bole,
 Green vitriol calcined,—each
 an ounce;
 Small (or, in its stead, the long)
 birthwort root,

Lesser centaury tops,
 Candy carrot seed,
 Opopanax,
 Galbanum, strained,
 Russian castor,
 Jew's pitch, or, in its stead,
 white amber prepared,
 Calamus aromaticus,—each two
 drams;
 Clarified honey, thrice the weight
 of all the other ingredients.
 Let these ingredients be mixed to-
 gether, after the same manner as
 directed in making the mithri-
 date.

These celebrated electaries are
 almost the only remains, which the
 late reformation has left in the
 shops, of the wild exuberance of
 composition, which the supersti-
 tion of former ages brought into
 vogue. The theriaca is a refor-
 mation of mithridate, made by An-
 dromachus, physician to Nero. The
 mithridate itself is said to have
 been found in the cabinet of Mi-
 thridates, king of Pontus. The first
 publishers of this pompous arca-
 num were very extravagant in their
 commendations of its virtues; the
principal of which was made to con-
sist in its being a most powerful pre-
servative against all kinds of venom.
 Whoever took a proper quantity in
 a morning, was ensured from be-
 ing poisoned during that whole day.
 This was confirmed by the exam-
 ple of its supposed inventor, who,
 as Celsus informs us, was by its con-
 stant use so fortified against the
 commonly reputed poisons, that
 none of them would have any effect
 upon him when he wanted their as-
 sistance. But the notions of poi-
 sons, which prevailed in those
 ruder ages, were manifestly erro-
 neous. Before experience had fur-
 nished mankind with a competent
 knowledge of the powers of sim-
 ples, they were under perpetual
 alarms from an apprehension of
 poisons, and busied themselves in

contriving compositions which should counteract their effects; accumulating together all those substances which they imagined to be possessed of any degree of alexipharmac power. Hence proceed the voluminous antidotes which we meet with in the writings of the ancient physicians. Yet it does not appear that they were acquainted with any real poison, except the *cicuta*, *aconitum*, and *bites of venomous beasts*; and to these they knew of no antidote whatever. Even admitting the reality of the poisons, and the efficacy of the several antidotes separately, the compositions could no more answer the purposes expected from them, than the accumulating of all the medicinal simples into one form could make a remedy against all diseases.

Yet, notwithstanding the absurdity in the original intention of these medicines, and their enormity in point of composition; as they contain several powerful materials, whose virtues, though greatly prejudiced, yet are not destroyed, by their multiplicity and contrariety; the compounds have been found, from repeated experience, to produce very considerable effects, as *warm opiate diaphoretics*.

The colleges, however, of London and Edinburgh, paying very little deference to antiquity or common prejudice, have ventured at length to discard these venerable reliques, and very properly; and have substituted in their room an elegant and simple form, equivalent to them both in efficacy, under the title of

CONFECTIO OPIATA;

formerly

PHILONIUM LONDINENSE.

Opiated confectio.

Lond.

Take of

Long pepper,

Ginger,

Caraway seeds,—each two ounces;

Hard purified opium, six drams;
Syrup of white poppies, boiled to the consistence of honey, thrice the weight of the other ingredients.

Heat the syrup, and carefully mix with it the opium; then add the other ingredients, reduced into powder.

ELECTARIUM OPIATUM;

vulgo

ELECTARIUM THEBAICUM.

Opiated electary.

Edinb.

Take of

Aromatic powder, six ounces;

Virginian snake root, finely powdered, three ounces;

Purified opium, dissolved in white wine, half an ounce;

Clarified honey, half a pound.

Mix into an electary.

This composition consists of very powerful ingredients, and is doubtless capable of answering every thing that can be reasonably expected from the more voluminous theriaca of Andromachus. The London college also had formerly their theriaca composed of the less exceptionable ingredients of Andromachus's. But as these medicines have for a long time been chiefly employed for external purposes, in the way of cataplasm, the *theriaca Londinensis* is now omitted, and its place supplied by a cataplasm composed of a few well chosen articles, under the name of *cataplasma e cymino*, of which hereafter. For internal use, none of the theriacas are at present so much regarded as they have been heretofore; practitioners having introduced in their room extemporaneous boluses of Virginian snake-root, camphor, contrayerva, and the like, which answer all their intentions; with this advantage, that they may be given either with or without opium, an ingredient which renders the others prejudi-

cial in cases where they might otherwise be proper.

With regard to the quantity of opium in the foregoing compositions, one grain thereof is contained in four drams of the mithridate; in three scruples, fifteen grains of the Venice treacle; and in five scruples of the *theriaca Thebaica*. The proportion of opium will vary a little, according to the time that they have been kept; their moisture by degrees exhaling, so as to leave the remainder stronger of the opium, than an equal weight was at first. A change of this kind is taken notice of by many writers, but falsely attributed to an imaginary fermentative quality of the ingredients; by which they were supposed, from their multiplicity and contrariety, to be continually exalting and improving the virtues of one another.

A good deal of care is requisite, in making these compositions, to prevent the waste which is apt to happen in the pounding, and which would render the proportion of opium to the other ingredients precarious. The intention of dissolving the opium in wine, for these and other electaries, is, that it may be more uniformly mingled with the rest.

These compositions fully supply the place of the *CONFECTIO DAMOCRATIS*, or mithridate; and of the *THERIACA ANDROMACHI*, or Venice treacle;—two farraginous masses, which are very deservedly banished from both the London and Edinburgh Pharmacopœias, and retained by some others merely to show the height at which compositions in medicine had at one time arrived. On this account only, have they not been obliterated from the present edition of this work.

ELECTARIUM ALTERANS.

Alterative electary.

Take of

Crude antimony, finely levigated, three drams;

Resin of guaiacum, two drams;

Oil of saffraſſas, six drops;

Conserve of red roses, one ounce and a half;

Balsamic syrup, as much as is sufficient.

Grind the resin and the levigated antimony well together; and, having mixed these with the oil (dropt on a little sugar) and the conserve, let the whole be softened with the syrup into a due consistence.

This medicine is used against cutaneous foulnesses, obstructions of the glands, and impurities of the blood and juices. Dispensatory writers in general lay the principal stress, in compositions of this kind, upon the calx, cerufs, or cinnabar of antimony, preparations which are far inferior to the crude mineral, and very ill deserve the great character which has been usually given of them. The bulk of a small nutmeg of this electary may be taken every morning and evening with a little of the simple or compound lime water.

ELECTARIUM ANTIDYSENTERICUM.

Antidysenteric electary.

Take of

Yellow wax, three drams;

Spermaceti, two drams;

Conserve of red roses, an ounce and a half;

Oil of almonds, half an ounce;

Balsamic syrup, a sufficient quantity.

Let the wax and spermaceti be melted in the oil, over a gentle fire, and then mixed with the conserve and syrup.

Where sharp irritating humours have eroded the intestines, and laid open the mouths of the blood-vessels, this soft healing electary is often of great use. It is said that fluxes of long standing, contracted

in the Indies, which had yielded nothing to medicines of the restraining kind, have been removed by this, which supplies the natural mucus of the bowels that the flux has carried off, heals the excoriations, and obtunds the acrimonious humours.

ELECTARIUM CHALYBEATUM.

Chalybeate electary.

Take of

1.

Salt of steel, one dram;
Candied nutmegs,
Candied ginger,—each half an ounce;
Oil of cinnamon, five drops;
Conserve of orange peel, one ounce;
Balsamic syrup, as much as is sufficient to make them into an electary.

Take of

2.

Rust of steel, or steel prepared with sulphur, six drams;
Candied ginger, one ounce;
Conserve of orange peel, three ounces;
Syrup of orange peel, as much as will reduce them into a proper consistence.

Take of

3.

Conserve of orange peel, one ounce and an half;
Extract of chamomile, two drams;
Rust of iron, one dram and an half;
Aromatic powder, one dram;
Rhubarb, in powder, two drams;
Syrup of saffron, sufficient to form an electary.

These elegant chalybeate medicines are given not only in *catarrhic* and *chlorotic* cases, and *menstrual obstructions*; but likewise in *low hysterical* and *melancholic disorders*; and for *warining and invigorating the habit in great debilities and decays of constitution*. In either of these intentions, the bulk of a small nutmeg is to be taken twice a day, and its effects promoted by moderate exercise.

ELECTARIUM DEOBSTRUENS.

Deobstruent electary.

Take of

Gum ammoniacum,
Hard soap,—each a dram;
Powdered squills, one scruple;
Conserve of orange peel, half an ounce;

Syrup of ginger, as much as is sufficient to reduce the other ingredients into the consistence of an electary.

Where the breast is oppressed by thick phlegm, or the viscera obstructed, this electary may be taken twice or thrice a day to the bulk of a small nutmeg at a time. The quantity here prescribed is sufficient for six or eight doses.

ELECTARIUM E GUMMI GUAIAACO.

Electary of gum guaiacum.

Take of

Gum guaiacum,
Compound powder of arum,
Canella alba,—each six drams;
Conserve of orange peel, two ounces;

Syrup of orange peel, as much as will bring them into a proper consistence.

In *chronical rheumatisms, pains and aches in general* (that are not accompanied with inflammation), and some kinds of *paralytic numbnesses*, this warm stimulating electary may be taken to the quantity of a nutmeg twice a day.

ELECTARIUM EX HELLEBORO NIGRO.

Electary of black hellebore.

Take of

Black hellebore root,
Extract of savin,
Compound powder of myrrh,—each half an ounce;
Canella alba, two drams;
Syrup of orange peel, as much as is sufficient.

Mix and make them into an electary.

This electary is employed in one of our hospitals for promoting the

natural evacuations from the uterus: for which purpose, it is undoubtedly a medicine of great power. It may be taken to the quantity of half a dram twice a day.

ELECTARIUM JOVIALE.

Tin electary.

Take of

Pure tin,

Quicksilver,—each an ounce.

Let them be formed into an amalgama—then add,

Oyster shells prepared, one ounce.

Reduce the whole to a powder.

Mix equal quantities of this powder, and conserve of wormwood together, and form an electary, with syrup of saffron.

Two or three drams of this electary may be taken twice a day. It has been concluded, that the union of two such powerful anthelmintics as the *stannum* and *quicksilver*, was well calculated to expel the *tænia*; and accordingly it has been said, that this electary has succeeded, when other remedies have failed.

ELECTARIUM NITROSUM.

Nitrous Electary.

Mix one part of powdered nitre very well with eight parts of conserve of roses: these form an electary, very well calculated to throw into the habit a large quantity of nitre, without offending the stomach: hence may it be employed very advantageously in all active hæmorrhages, particularly in that of the lungs; or in any other cases, where circumstances require the copious use of nitre.

ELECTARIUM PRO GINGIVIS.

Electary for the gums.

Take of

Powdered myrrh, three drams;

Cream of tartar,

Cochineal,—of each one dram and a half.

Grind them very well together, in a glass mortar: then add

Melted honey, four ounces;

Powdered cloves, one dram.

In cases of spongy or ulcerated gums, this application may be used with safety, and sometimes with advantage; when the tincture of myrrh, that so long favourite remedy, cannot be used, on account of the menstruum in which the myrrh is dissolved.

ELECTARIUM AD NEPHRITICOS.

Nephritic electary.

Take of

Lenitive electary, an ounce and a half;

Venice turpentine, one ounce;

Eggshells prepared [or prepared oyster shells] half an ounce;

Choice rhubarb, one dram;

Syrup of marshmallows, as much as is sufficient.

Dissolve the turpentine in the yolk of an egg, and then mix the whole together, according to art, so as to make thereof an electary.

This composition, taken from the Edinburgh infirmary, is contrived for cleansing the urinary passages in *nephritic disorders*. Turpentine, properly divided by earthy powders, is a safe, and, at the same time, one of the most powerful diuretics that can in these cases be ventured on. The rhubarb and laxative electary are very useful additions; for the belly ought here to be always kept open, though the stronger purgatives are very improper. A dram of the electary may be taken once or twice a day, along with an infusion of marshmallow roots, sweetened with a spoonful of honey.

ELECTARIUM PARALYTICUM.

Paralytic electary.

Take of

Mustard seed,

Conserve of rosemary,—each one ounce;

Compound spirit of lavender,
two drams.

Beat the mustard seed with a little water, that the pulp may be pressed through a hair sieve; then mix with it the conserve and the spirit.

This is a very efficacious medicine for *paralytic disorders, tremors, and numbness of the limbs, the decays accompanying old age, and in all cases where solids require to be stimulated, or sluggish stagnant juices to be put in motion.* It ought to be taken every morning and evening, or oftener, to the bulk of a large nutmeg; with a glass of rich wine, or any proper julep, after it.

ELECTARIUM E CORTICE PERUVIANO.

Electary of Peruvian bark.

Take of 1.

Peruvian bark, three ounces;
Cascarilla, half an ounce;
Syrup of orange peel, a sufficient quantity.

Take of 2.

Peruvian bark, three ounces;
Virginian snakeroot, one ounce;
Syrup of orange peel, a sufficient quantity.

Take of 3.

Peruvian bark, three ounces;
Crude sal ammoniac, three drams;
Syrup of lemon juice, a sufficient quantity.

Take of 4.

Peruvian bark, three ounces;
Colcothar of vitriol, six drams;
Simple syrup, a sufficient quantity.

Take of 5.

Peruvian bark, three ounces;
Alum, one ounce;
Syrup of lemon juice, as much as is sufficient.

Take of 6.

Extract of Peruvian bark, one ounce;
Extract of logwood,

Extract of liquorice,—each half an ounce;

Mucilage of quince seeds, as much as is sufficient to reduce the other ingredients into the consistence of an electary.

All these compositions are very elegant and efficacious in the intentions for which they are designed. The FIRST is calculated for *common intermittent fevers*, in the cure of which the virtues of the bark are greatly assisted by the cascarilla.—The SECOND and THIRD are given in those intermittents, which happen in *cachectic habits*, and persons *subject to obstructions of the viscera*, where the bark by itself, on account of its astringency, would be prejudicial. The FOURTH is a good *strengtheners in laxities of the solids, and decays of constitution*;—and the FIFTH a *powerful styptic* in *fluxes and hæmorrhages*, particularly in the *diabetes and fluor albus*. The bulk of a nutmeg of each may be taken at a time, and repeated according to the exigency of the case.—The SIXTH is a very agreeable form for the exhibition of Peruvian bark to those who are more than ordinarily offended with its taste; the substances here joined effectually covering its taste, at the same time that they coincide with it in virtue. The composition is a very elegant and pleasant one, and well deserves a place in the shops. It may either be given in the form of a bolus or electary, in the dose of a dram or more; or dissolved in any suitable liquor into a draught.

ELECTARIUM PURGANS ACIDUM.

An acid purgative electary.

Take of

Pulp of tamarinds, two ounces;
Crystals of tartar, two drams.

Make them into an electary.

This is an useful *cooling laxative*, in *hot bilious dispositions, or inflammatory diseases*. The bulk of a

nutmeg may be taken every hour, or oftener, till it begins to operate, or the same quantity may be taken once a day occasionally in dry costive habits.

ELECTARIUM TEREBIN- THINATUM.

Terebintbinate electary.

Take of

Rectified oil of turpentine, half an ounce;

Honey, one ounce;

Powdered liquorice, as much as is sufficient to form an electary.

This electary has been highly recommended in *chronic rheumatism*, particularly that species called the *ischias*, or more commonly *sciatica*; and has been said to cure where other powerful remedies have been tried in vain. It is cer-

tainly a good *stimulating diuretic*; and the spirit of turpentine may be introduced into the habit, in the form here prescribed, in larger quantity, and with more ease, than by any other.

ELECTARIUM SISTENS.

Binding electary.

Take of

The Japonic confection, two ounces;

Extract of logwood, one ounce;

Syrup of dry roses, as much as will reduce them into a proper consistence for an electary.

This electary is calculated for the relief of dysenteries, and other intestinal fluxes, after the acrid humours have been duly evacuated by mild cathartics, &c. The quantity of a nutmeg may be taken every four or five hours.

CHAPTER VI.

LOHOCHS.

A *Loboch, eclegma, linctus*, or *lambative*, is a soft compound designed to be licked or *slowly swallowed down*, of a middle consistence between a syrup and electary, at least never so thin as the former, nor so thick as the latter.

These preparations are generally composed of expressed oils, mixed with syrups, and similar substances. In making them, the syrup is first to be mixed with a little sugar, and then briskly beaten up in a mortar, with the oil, which will thus readily incorporate, especially if the syrup be of the acid kind. Two ounces of syrup, a dram of sugar, and an ounce of expressed oil, form a linctus of a due consistence; which may be made thicker at pleasure by adding more oil, or thinner by an increase of the syrup.

Any oily substance, as spermaceti, &c. may likewise be reduced into this form: and instead of sugar, powders more agreeable to the intention of emollients or pectorals, may be used; as the compound powder of gum tragacanth, or the troches of starch, gum arabic, or liquorice, or conserve of hips, will answer the purpose of forming a smooth and pleasant linctus. But the form at best is very unsightly and disagreeable, and substances of this kind render it more so.

LOHOCH COMMUNE.

Common lohoch.

Take of

Fresh-drawn oil of almonds,
Syrup of marshmallows, or balsamic syrup,—each one ounce;
White sugar, two drams.

Mix and make them into a lohoch.

LOHOCH EX AMYLO.

Starch lohoch.

Take of

Starch, two drams;
Japan earth, one dram;
Balsamic syrup,
Whites of eggs, beaten up into a thin fluid,—each one ounce.

Mix and make them into a lohoch.

LOHOCH DE LINO.

Lohoch of linseed.

Take of

Fresh-drawn linseed oil,
Balsamic syrup,—each one ounce;
Flowers of sulphur washed,
White sugar,—each two drams.

Mix and make them into a lohoch.

LOHOCH DE MANNA.

Lohoch of manna.

Take of

Calabrian manna,
Fresh-drawn oil of almonds,
Syrup of violets,—each, equal parts.

Mix and make them into a lohoch.

LOHOCH SAPONACEUM.

Saponaceous lohoch.

Take of

Castile soap, one dram;
Oil of almonds, one ounce;
Syrup of lemon juice, one ounce and a half.

Mix and make them into a lohoch.

LOHOCH DE SPERMATE CETI.

Lohoch of spermaceti.

Take of

Spermaceti, two drams;
Fresh-drawn oil of almonds, half an ounce;
Balsamic syrup, one ounce.

Mix the spermaceti with a sufficient quantity of yolk of eggs. Then

add the oil and syrup, and make them into a lohoch.

LOHOCH BALSAMICUM.

Balsamic lohoch.

Take of

Spermaceti, two drams;

Balsam of Peru, one dram;

Syrup of marshmallows, two ounces.

Let the spermaceti and balsam be well worked up with a sufficient quantity of yolks of eggs; and then mix with them the syrup.

LINCTUS SOLUTIVUS.

Solutive lohoch.

Take of

Conserve of hips, one ounce;

Solutive syrup of roses,

Oil of olive,—each four ounces.

Mix and make them into a lohoch.

The principal use of lohochs is in disorders of the internal parts of the mouth, fauces, and œsophagus; as in aphthæ, and tickling coughs from defluxions in the first passages. For, however they may have been celebrated, under the vague appellation of pectorals, in affections of the breast and lungs, it is not to be expected, that their emollient lubricating quality can reach those parts, or that they can give any relief in the true pulmonary cough. The slow manner in which they are swallow-

ed down renders them well adapted to correct acrimony and irritation in the throat and about the mouth of the stomach; though the free use of such unctuous compositions is soon liable to pall the appetite.

LINCTUS ACIDULUS.

Acidulous linctus.

Take of

Conserve of red roses, two ounces;

Weak spirit of vitriol, four scruples, or as much as is sufficient to give a grateful acidity.

Mix them together.

This linctus is of a different nature from the foregoing preparations, and is used as a light restraining and detergent. It rather strengthens than relaxes the stomach, is sufficiently agreeable in taste, and of a fine red colour. So much at present are these forms of medicine disregarded, that they have been totally rejected from both the London and Edinburgh Pharmacopœias; though all but the three last had a place in the former editions of the Edinburgh Dispensatories. As lambatives they may be useful in tickling coughs; excoriations of the fauces; aphthous ulcerations; but cannot be considered as advantageous in any other view,

CHAPTER VII.

EMULSIONS AND SYRUP.

IN the foregoing chapter, oils were united with watery liquors called syrups, by the mediation of sugar and conserves, into thick unctuous compounds. The present chapter contains mixtures of oily, resinous, and simular bodies, with water, in a liquid form, of a white colour resembling milk, and hence called emulsions, or milks.

Emulsions have been generally prepared by grinding the oily seeds of plants, or kernels of fruits, along with common water, or any agreeable simple distilled water. In this process, the oil of the subject is, by the mediation of the other matter, united with the aqueous fluid; and hence they possess some share of the emollient virtue of the pure oil; with this advantage, that they are agreeable to the palate, and not apt to turn rancid or acrimonious by the heat of the body, which the pure oils in some inflammatory cases may do.

Emulsions, besides their use as medicines themselves, are excellent vehicles for certain substances which cannot otherwise be so conveniently taken in a liquid form. Thus camphor, triturated with almonds, readily unites with water into an emulsion, and in this form is conveyed into the remotest parts of the body, with sufficient efficacy to answer intentions of moment, at the same time that its heat and pungency are softened by the unctuousity of the almonds.

Pure oils, balsams, resins, and other simular substances, are likewise rendered miscible with water, into emulsions or milky liquors, by

the intervention of mucilages. The white or yolk of an egg unites these bodies also with water, but less elegantly.

Several of the gummy resins, as *ammoniacum*, *galbanum*, *myrrh*, and others, are reducible into emulsions by trituration with water alone; their resinous part being rendered dissoluble by the mediation of the gummy.

LAC AMYGDALÆ,

formerly

EMULSIO COMMUNIS.

Almond milk.

Lond.

Take of

Sweet almonds blanch'd, one ounce and a half;

Double-refined sugar, fourdrams;

Distilled water, two pints.

Beat the almonds with sugar, then rubbing them well together, add the water by degrees, and strain the liquor.

EMULSIO COMMUNIS.

Common emulsion.

Edinb.

Take of

Sweet almonds, one ounce;

Water, two pounds and a half.

Blanch the almonds, and beat them in a stone mortar, and gradually pour upon them the water; and strain off the liquor.

If, whilst the almonds are beating, two ounces of mucilage of gum arabic be added, the preparation is called EMULSIO ARABICA, *the Arabic emulsion.*

Great care should be taken, that the almonds are not become rancid by keeping; which will not only render the emulsion extremely un-

pleasant, a circumstance of great consequence in a medicine that requires to be taken in large quantities, but likewise give it injurious qualities little expected from preparations of this class. These liquors are principally made use of for *diluting* and *obtunding acrimonious humours*; particularly in *heat of urine* and *stranguries* arising either from a natural sharpness of the juices, or the operation of cantharides, or other irritating medicines. In these cases, they are to be drunk frequently, in the quantity of half a pint or more at a time.

Some have ordered emulsions to be boiled, with a view to deprive them of some imaginary crudity; but by this process they quickly cease to be emulsions; the oil separating from the water, and floating distinct upon the surface. Acids, and vinous spirits, produce a like decomposition. On standing also for some days, without addition, the oily matter separates, and rises to the top, not in its pure form, but in that of a thick cream. These experiments prove the composition of the emulsions made from the oily seeds of kernels, and at the same time point out some cautions to be attended to in their preparation and use.

These emulsions are to be considered as possessing nearly the same qualities; but that with the gum arabic certainly possesses a much greater demulcent power.

EMULSIO CAMPHORATA.

Camphorated emulsion.
Edinb.

Take of

Camphor, one scruple;
Sweet almonds, ten in number;
Double-refined sugar, one dram;
Water, six ounces.

Grind the camphor and almonds well together in a stone mortar, and add by degrees the water.

Then strain the liquor, and dissolve in it the sugar.

This is a very commodious form for the exhibition of camphor; the unctuous quality of the almonds in great measure covering its pungency. In fevers that require the assistance of this powerful diaphoretic drug, a spoonful of the emulsion may be taken every three or four hours.

LAC AMMONIACI.

Milk of ammoniacum.
Lond.

Take of

Gum ammoniacum, two drams;
Distilled water, half a pint.

Grind the gum-resin with the water, in a mortar, until the gum be dissolved.

This liquor is employed for *attenuating tough phlegm*, and *promoting expectoration*, in the humoral asthma, coughs, and obstructions of the viscera. It may be given to the quantity of two spoonfuls twice a day.

In the same manner may be made the LAC ASÆFETIDÆ, and of the other gum-resins. The milk of asafœtida is used in spasmodic, hysterical, and other nervous affections; and not only given internally but in the form of glyster, particularly in NERVOUS ASTHMA. It is said to answer the same purpose as when given in substance.

All, even the purest, resinous substances, by an addition of gum or mucilage, may be formed into emulsions. They may be also made miscible with water, by triturating them with a few drops of *water of kali*. Or the mass which thus becomes saponaceous, may be conveniently exhibited in pills.

EMULSIO PURGANS.

A purging emulsion.

Take of

Sweet almonds, blanched, two drams;

Fine sugar, one dram;
Gum Arabic, half a dram;
Scammony, ten grains;
Simple cinnamon water, one ounce.

Dissolve the gum in the cinnamon water, and, having ground the scammony with almonds and sugar, pour on the liquor by little at a time, continuing to grind them together, so as to make them into an emulsion.

This emulsion is an agreeable and effectual purgative. It may be prepared with different proportions of the scammony, at pleasure: other purgative resins, as that of jalap, may be substituted to the scammony; a proper quantity of any syrup to the sugar; and to the cinnamon water, any other simple water that may be more acceptable: but spirituous waters, for reasons already mentioned, have no place. Some have employed an infusion of liquorice, which appears to be a very proper addition in these kinds of preparations, as it coincides with the almonds in correcting the irritating power of the purgative material.

EMULSIO OLEOSA SIMPLEX.

Simple oily emulsion.

Take of

Oil of almonds,
Syrup of marsh mallows,—each,
one ounce and a half;
Distilled water, seven ounces.

Mix—and if one dram of ammonia prepared is added, the EMULSIO OLEOSA VOLATILIS will be formed; or this may be done by adding a sufficient quantity of ammonia.

Where pure oil is not apt to sit easy on the stomach, by the addition of alkali this inconvenience is often remedied, and the medicine rendered useful in coughs, hoarseness, and similar affections, where no circumstances occur to prevent the use of volatiles.

EMULSIO OLEOSA.

Oily emulsion.

Take of

Oil-olive, a quarter of a pint;
Spirit of hartshorn, two drams;
Simple pennyroyal water, twelve ounces;
Pectoral syrup, an ounce and a half.

Mix them together.

This composition is often used against recent colds, for alleviating the cough, and promoting expectoration. Where the complaints are of long standing, these kinds of medicines have no place; nor is their use in any case to be long continued, as they relax the stomach, pall the appetite, and increase the disorder.

A much more elegant oily emulsion, for all the intentions in which the simple lubricating quality of expressed oils is wanted, may be prepared in the following manner.

Take an ounce of powdered gum Arabic, and the same quantity of common water. Dissolve the gum in the water, that it may form a thick mucilage; to which add by degrees four ounces of fresh-drawn oil of almonds, rubbing them well together in a mortar till they incorporate into a smooth white mass. Then pour in by little and little, continuing the agitation, four ounces of common water; to which may be added nutmeg water, rose water, and simple syrup, of each two ounces.

This appears to be the pleassest form that oils can be given in. The union is also more perfect, and the oil less disposed to separate on standing, than in the emulsions obtained by other means. Even strong acids added to this emulsion produce no decomposition in it. But alkalies can have no place in this form. For these, as we have observed upon another occasion, precipitate pure gums themselves from water,

EMULSIO SPERMATIS CETI.

Emulsion of spermaceti.

Take equal parts of spermaceti and of mucilage of gum Arabic. Rub them together in a mortar till they are incorporated into a thick mass, which may be diluted at pleasure with water, as in the foregoing process.

Emulsions of spermaceti, or spermaceti draughts, are commonly prepared by means of yolks of eggs; and are sufficiently uniform. Those made with mucilage, as here directed, have this advantage, that they are less disagreeable in taste, and not liable to grow rancid. The mixture of the spermaceti and mucilage may be kept, for many days, in a state fit for being diluted, by gradual additions of water, into a smooth emulsion.

EMULSIO CUM ARO.

Emulsion with arum root.

Take of

Fresh arum root,
Gum Arabic,—each, two drams;
Spermaceti, two scruples;
Common water, five ounces;
Nutmeg water,
Syrup of orange peel,—each, half an ounce.

Dissolve the gum Arabic, with a part of the water, into a mucilage, which is to be beaten with the spermaceti into a smooth paste.

To this add the arum root, previously beaten by itself into a pulp; and rub them well together

that they may be thoroughly mixed. Then gradually pour in the waters and the syrup.

Fresh arum root may be taken in this form without the least inconvenience from the pungency, with which the root itself so violently affects the mouth. I have given a spoonful of the emulsion every six hours, or oftener, in cases of the *rheumatic kind*, and generally with great benefit. The more immediate effect experienced from it was that of warming the stomach, and promoting sweat, which in some instances it did profusely.

SYRUPUS HYDRARGYRI.

Syrup of quicksilver.

Take of

Purified quicksilver, one dram;
Gum arabic, three drams;
Rose-water, as much as is sufficient for reducing the gum into a mucus.

Let them be rubbed in a marble mortar till the quicksilver totally disappears; then, by degrees, mix with it four ounces of simple syrup.

This, when it is properly prepared, is an agreeable preparation for children, where the state of their health requires the use of mercurials, as alteratives; it is one of the mildest sort, nor is apt to salivate, or pass off too freely by the bowels. The *Syrupus papaveris albi* is preferable to rose-water for forming the mucus.

CHAPTER. VIII.

JULEPS, MIXTURES, AND DRAUGHTS.

BY JULEP is commonly understood an agreeable liquor, designed as a vehicle for medicines of greater efficacy, or to be drank after them, or taken occasionally as an auxiliary. In this light their basis is generally common water, or a simple distilled water, with one-fourth or one-third its quantity of a distilled spirituous water: this mixture is sweetened with sugar, or any proper syrup, or acidulated with vegetable or mineral acids, or impregnated with other medicines suitable to the intention; care being taken that these additions be such, as will not render the compound unsightly or unpalatable. The quantity usually directed at a time, in common prescription, is six or eight ounces, to be taken by spoonfuls.

A MIXTURE, more strictly so called, receives more efficacious materials, whether soluble in water, as extracts or salts, or indissoluble, as powders; more regard being here had to the medicinal intention, than to the sightliness or palatableness of the compound. There is indeed no precise distinction between the two; the same composition being often called by one a julep, and by another a mixture; though, in general, few would give the name of julep to a very disagreeable liquor, or that of mixture to a very pleasant one.

A DRAUGHT differs from a julep or mixture only in being prescribed in less quantity, the whole being intended for one dose.

MIXTURA CAMPHORATA;
formerly

JULEPUM e CAMPHORA.

Camphorated mixture.

Lond.

Take of

Camphor, one dram;

Double-refined sugar, half an ounce;

Boiling distilled water, one pint.

Grind the camphor first with a little rectified spirit of wine; and afterwards with the sugar, till they are perfectly mixed. Then add the water by little and little, let the mixture cool in a close vessel, and lastly pass it through a strainer.

There is generally some difficulty in making camphor mix well with water:—if it was first rubbed down with mucilage; or with almonds, as in the Emulsio Camphorata, the mixture would be more easily effected.—But it will dissolve most effectually in a watery menstruum, when joined with myrrh.

MIXTURA CAMPHORATA
CUM MYRRHA.

Camphorated mixture with myrrh.

Take of

Camphor,

Myrrh,—each, one dram.

Rub them well together into a powder; then gradually add

Distilled water, one pint;

Sugar, half an ounce.

These will form together a perfectly homogeneous mixture.

A spoonful or two of either of these may be taken where camphor is proper.

But vinegar is sometimes made use of instead of water, which forms a very elegant mixture.

MIXTURA E CAMPHORA ACETOSA.*Camphor mixture with vinegar.*

Take of

Camphor, one dram;
 Gum Arabic, two drams;
 Double-refined sugar, half an ounce;
 Vinegar, one pint.

Grind the camphor with a few drops of rectified spirit of wine, till it grows soft; then add the gum, previously reduced to a mucilage, with equal its quantity of water, and rub them together till they are perfectly mixed. To this mixture add by degrees the vinegar with the sugar dissolved in it.

By this management, the whole substance of the camphor is united with, and kept suspended in, the liquor; and consequently every spoonful of the mixture is equivalent to one grain and seven eighths of a grain of camphor in substance. The same treatment succeeds equally when water is used for the menstruum; and if the assistance of nitre be required, this also may be added in either form.

MIXTURA CRETACEA.*Chalk mixture.**Lond.*

Take of

Chalk, prepared, one ounce;
 Double-refined sugar, six drams;
 Gum Arabic, powdered, one ounce;
 Water, two pints.

Mix them together.

POTIO CRETACEA.*Chalk drink.**Edin.*

Take of

Prepared chalk, one ounce;
 Double-refined sugar, half an ounce;
 Mucilage of gum arabic, two ounces;

Rub them together; and afterwards add by degrees,

Water, two pints and an half;

Spirit of cinnamon, two ounces.
 Mix them together.

These compositions are nearly similar, and may be considered as very agreeable absorbents, designed for heartburns and similar disorders arising from acid juices in the first passages; and administered frequently in febrile diarrhœa. The chief use of the gum is not only to give a greater degree of consistence to the water, and enable it to keep the powdered chalk suspended; but also assists in sheathing the primæ viæ, and defending them from the stimulus of acrid bile, or other humours which might be offensive.

MIXTURA MOSCHATA;*formerly***JULEPUM e MOSCHO.***Musk mixture.**Lond.*

Take of

Rose water, six ounces by measure;
 Musk, two scruples;
 Gum arabic,
 Double-refined sugar,—each, one dram.

First grind the sugar with the musk, then with the gum, and gradually add to them the rose-water.

This is an improvement upon the Hysteric Julep with Musk of Bates. Orange flower water is directed by that author; and indeed this more perfectly coincides with the musk than rose-water: but as the former is scarce procurable in perfection, the latter is here preferred. The mixture appears turbid at first; on standing a little time, it deposits a brown powder, and becomes clear, but at the same time loses great part of its virtue. This inconvenience may be prevented, by thoroughly grinding the musk with gum arabic, before the addition of the water, as directed in the preceding chapter for making emulsions. By means of the gum, the

whole substance of the musk is made to remain suspended in the water. Volatile spirits are in many cases an useful addition to musk, and likewise enable water to keep somewhat more of the musk dissolved, than it would otherwise retain. The following composition of this kind is used in some of our hospitals.

JULEPUM MOSCHATUM.

Musk julep.

Take of

Rose water, six ounces;
Compound spirit of ammonia,
one dram and a half;
Musk, fifteen grains;
White sugar, half an ounce.

Grind the musk with the sugar, and then mix therewith the other ingredients.

JULEPUM CARDIACUM.

Cordial julep.

Take of

1.
Cinnamon water, six ounces;
Spirit of nutmeg, two ounces;
Syrup of orange-peel, half an ounce.

Mix them together.

Take of

2.
Dill-seed water, six ounces;
Spirit of nutmeg, two ounces;
Compound spirit of lavender,
Syrup of saffron,—each, two drams.

Mix them together.

JULEPUM CARMINATIVUM.

Carminative julep.

Take of

1.
Fennel-seed water, six ounces;
Compound juniper water, two ounces;
Syrup of clove july-flowers, half an ounce.

Take of

2.
Pimento water, six ounces;
Spirit of aniseed, two ounces;
Syrup of orange-peel, half an ounce.

Take of

3.
Dill-seed water, six ounces;
Spirit of caraway, two ounces;

Syrup of ginger, half an ounce.

JULEPUM HYSTERICUM.

Hysteric julep.

Take of

1.
Pennyroyal water, six ounces;
Pimento water, two ounces;
Compound spirit of lavender,
Compound spirit of ammonia,—
each, one dram;
Syrup of clove-july-flowers, half an ounce.

Take of

2.
Dill-seed water, four ounces;
Pepper-mint water, two ounces;
Tincture of cardamoms,
Syrup of ginger,—each, two drams.

JULEPUM REFRIGERANS.

A cooling julep.

Take of

Rhenish wine, five ounces;
Rose water, two ounces;
Seville orange juice,
Syrup of violets,—each six drams.

JULEPUM STOMACHICUM.

Stomachic julep.

Take of

1.
Common mint water, six ounces;
Spirit of mint, two ounces;
Syrup of saffron, two drams.

Take of

2.
Cinnamon water, six ounces;
Spirit of nutmeg,
Compound tincture of cardamoms,—each, one ounce;
Syrup of orange-peel, half an ounce.

The titles of these mixtures express the intentions for which they are calculated. Four or five spoonfuls of either may be taken occasionally, or used as vehicles and diluters of medicines of greater efficacy.

The following *julapia* are used in the Edinburgh infirmary.

JULAPIUM AMMONIACUM.

Ammoniacum julep.

Take of

Milk of ammoniacum, four ounces;

Syrup of squills, three ounces.
Mix them together.

Two spoonfuls of this mixture may be given twice a day, in *coughs, asthma, and oppressions at the breast*. It is a medicine of considerable efficacy, but not a little unpleasant, though called a julep in the hospitals where it is used.

JULAPIUM ANTIHYSTERICUM.

Antihysterical julep.

Take of

Pennyroyal water, four ounces;
Tincture of valerian, one ounce;
Tincture of castor, two drams;
Salt of hartshorn, ten grains;
White sugar, six drams.

Mix them together.

The virtues of this composition are sufficiently obvious from its title. The dose is two spoonfuls, to be taken twice or thrice a day.

JULAPIUM CARDIACUM.

Cordial julep.

Take of

Pepper-mint water, four ounces;
Pimento water, two ounces;
Compound spirit of ammonia,
Tincture of castor, — each, two drams;
White sugar, half an ounce.

Mix and make them into a julep.

This mixture is an useful cordial in all *depressions of the spirits*, in the *sinkings of low fevers*, and the *languors to which hysterical and hypochondriacal persons are subject*. An ounce, or two spoonfuls, may be taken for a dose, two or three times a day.

JULAPIUM DIAPHORETICUM.

Diaphoretic julep.

Take of

Common mint water, four ounces;
Water of acetated ammonia, two ounces;
Salt of hartshorn, ten grains;
White sugar, six drams.

Mix them for a julep.

This excellent composition is a *very powerful sudorific*, and answers

its intention more effectually, and with greater certainty, than many others calculated for the same purpose. Where a copious sweat is to be excited, as in *rheumatic diseases*, two spoonfuls are to be taken warm in bed every hour, or two hours, till the sweat break out. If warm diluting liquors be not afterwards sufficient to keep it up, the same medicine is to be occasionally repeated. Great care should be taken that the water of acetated ammonia should be perfectly saturated; for if the vinegar should be redundant, the salt of hartshorn will lose a proportionate degree of power.

JULAPIUM DIURETICUM.

Diuretic julep.

Take of

Water of acetated ammonia, four ounces;
Compound horseradish water, two ounces;
Syrup of marshmallows, three ounces.

Mix them together.

The water of acetated ammonia is an excellent *aperient saline liquor*, capable of promoting evacuation either by the *cutaneous pores*, or the *urinary passages*, according to the manner of exhibiting it. We have seen before, that when taken warm in bed, it proves a powerful sudorific; especially if assisted by volatile salts, small doses of opiates, or other substances which tend to determine its action to the skin. If the *patient walks about*, in a cool air, it *operates gently*, but for the most part *effectually, by urine*: the additions here joined to it correspond with this intention, and promote its operation. As this medicine excites the urinary discharge without heating or irritating the parts, it *takes place not only in dropsies*, but likewise in *inflammatory disorders*, wherever this salutary secretion is to be promoted. It is given to the quantity of two spoonfuls thrice a day.

JULAPIUM FETIDUM.

Fetid julep.

Take of

Asafoetida, one dram and a half;
 Penny-royal water, six ounces;
 Tincture of valerian water, two ounces;
 Oil of hartshorn, twenty drops;
 White sugar, ten drams.

Rub the asafoetida in the pennyroyal water till it dissolves; and having dropt the oil upon the sugar, mix the whole together.

This composition is not a little fetid and unlighty; it is nevertheless a medicine of great efficacy, in *hypochondriacal* and *hysteric disorders*, *asthmas*, and other nervous complaints: the dose is one spoonful, to be taken thrice a day. It is sometimes prepared without the oil of hartshorn.

JULAPIUM HYDRAGOGUM.

Hydragogue julep.

Take of

Infusion of chamomile-flowers, six ounces;
 Tartarised antimony, ten grains;
 Syrup of buckthorn, two ounces.

Mix them together.

Two spoonfuls of this julep are given, in *hydropic cases*, every two hours, till it take sufficient effect as a purgative; which it generally does before the quantity here prescribed has been made use of. Tartarised antimony, thus exhibited in small doses, and frequently repeated, proves as certain and powerful a cathartic, as it does an emetic when given in a larger quantity at once. It operates nevertheless, for the most part, with sufficient ease.

JULAPIUM SISTENS.

Binding julep.

Take of

Common mint water, four ounces;
 Pimento water, two ounces;
 Catechu electary, two drams;

Catechu, in powder, one dram;
 Tincture of opium, forty drops;
 White sugar, half an ounce.

Mix them well together.

This julep is calculated against *dysenteries* and *diarrhœas*; in which, after proper evacuations, it generally eases the gripes, and restrains the flux. It is to be given three or four times a day, in the quantity of a spoonful at a time.

MIXTURA DIAPHORETICA.

Diaphoretic mixture.

Take of

Common water, six ounces;
 Julep of camphor with vinegar, one ounce and a half;
 Compound powder of contrayerva, four scruples;
 Nitre, two scruples;
 Syrup of orange-peel, six drams.

Mix them together.

In hospitals and places ill aired, common inflammatory fevers sometimes change into petrid and malignant ones. To guard against any accident of this kind, as soon as the inflammation begins to abate, or the pulse to soften, three or four spoonfuls of this alexipharmac mixture may be given every six hours. Camphor seems to answer best when thus given in a liquid form; and to be most efficacious in such small doses, for *abating inflammation* and *nervous symptoms*, and likewise for *promoting a gentle diaphoresis*.

MIXTURA ANTIDYSENTERICA.

Antidysenteric mixture.

Take of

Extract of logwood, three drams;
 Tincture of catechu, two drams;
 Spirit of cinnamon, one ounce;
 Distilled water, seven ounces.

Dissolve the extract in the spirit of cinnamon, and then add the common water and the tincture.

In recent *dysenteries*, after the necessary evacuations, a spoonful or two of either of these mixtures may

be given after every motion, or once in four or five hours. If mild opiates fail of procuring rest, it is a sign that some of the corrupted humours still remain in the bowels, and that it is more proper to go on with the evacuation, than to suppress the flux. These medicines will sometimes likewise take place in the last stage of the disease, when through neglect or mismanagement it has continued till the strength is much impaired, the intestines greatly relaxed, and their villous coat abraded; provided there be *neither ichorous or involuntary stools, aphthæ, petechiæ, hiccup, or great anxiety at the breast; rhubarb, and these astringents, are to be so interposed, that at the same time the putrid humours are dislodged, the strength may be supported, and the intestines braced. See Dr. PRINGLE's excellent Observations on the Diseases of the Army, page 254, & seq.* where the reader will find a full and satisfactory history of the symptoms and cure of this distemper, so frequent and fatal in the camp.

HAUSTUS ANTIEMETICUS SALINUS.

Saline antiemetic mixture.

Take of

Kali, prepared, half a dram;
Lemon juice, six drams;
Cinnamon water, one ounce;
Fine sugar, one scruple.

Mix them together.

This draught is frequently prescribed, not only for the purpose expressed in its title, but likewise as a saline aperient in *icterical, inflammatory, and other disorders*, where medicines of that class are proper.

MIXTURA CARDIACA.

Cordial mixture.

Take of

Cinnamon water, four ounces;
Spirit of cinnamon, two ounces;

Extract of saffron, one scruple;
Confection of kermes, six drams.
Mix them together.

In *great languors and depressions*, a spoonful of this rich cordial mixture may be taken every half hour.

MIXTURA AD PHTHISIN.

Mixture against the phthisis.

Take of

1.

Balsam of copaiba, one dram;
Common water, four ounces;
Spirit of cinnamon, one ounce;
Syrup of orange peel, half an ounce.

Let the balsam be dissolved in a proper quantity of yolk of egg, and then mixed with the other ingredients.

Take of

2.

Purified opium, one grain;
Conserve of roses, half a dram.

Mix them together for a bolus.

Take of

3.

Oxymel of squills, a dram and a half;
Tincture of opium, fifteen drops;
Spirit of cinnamon, two drams;
Common water, two ounces.

Mix them together.

In the advanced state of a consumption we may distinguish two sorts of coughs, one occasioned by the ulcers, and the other by a thin rheum falling upon the fauces and trachea; which parts being then deprived of their mucus, become extremely sensible to irritation. It is this latter kind, perhaps, which is most painful and teasing to the patient. The first sort requires balsamics, if the ulcer be open, and the matter can be expectorated. For this purpose, the first of the above mixtures is a very elegant and effectual formula: two spoonfuls are to be taken at a time, twice a day. If the balsam purge, two drams of the camphorated tincture of opium, added to the quantity of the mixture here pre-

scribed, will prevent that effect.—
The other kind of cough can only be palliated by increasants; and for that purpose, the second of the above compositions is one of the most successful medicines: the conserve is altogether safe, and otherwise well adapted to the nature of the disease, but of weak virtues: the opiate extract is the most efficacious ingredient, but is to be given with great caution, as opiates in general are apt to heat, to bind the body, and to obstruct expectoration. Since these bad qualities are in good measure corrected by squills; as soon as the patient begins to complain of restless nights from coughing, the third mixture may be given at bed-time. See Pringle's Observations on the Diseases of the Army.

MIXTURA E VALERIANA.

Valerian mixture.

Take of

Pepper-mint water, twelve ounces;

Wild valerian root, in powder, one ounce;

Compound spirit of lavender, half an ounce;

Syrup of orange peel, one ounce.

Mix them together.

Wild valerian root, one of the principal medicines in epilepsies and vertigos, seems to answer better, when thus exhibited in substance, than if given in form of tincture or infusion. The liquors here joined to it excellently coincide, and by their warmth and pungency greatly improve its virtues. Two spoonfuls of the mixture may be taken twice or thrice a day.

HAUSTUS CATHARTICUS.

Cathartic draught.

Take of I.

Scammony, ten grains;

Spirit of rosemary, two drams;

Syrup of buckthorn, six drams.

Grind the scammony with the spirit in a glass mortar, and when perfectly incorporated, mix in the syrup.

Take of

2.

Jalap, in powder, one scruple;

Ipecacuanha, three grains;

Compound juniper water, one ounce;

Infusion of linseed, an ounce and a half;

Simple syrup, one dram.

Mix them together.

Both these compositions are *strong cathartics*, yet for the most part easy and safe in operation. They are calculated chiefly for *hydropic cases*, in which they procure copious evacuations, without weakening or fatiguing the patient so much as many other medicines of this kind.

HAUSTUS CATHARTICUS SALINUS.

Saline cathartic draught.

Take of

Vitriolated natron,

Manna,—each, six drams;

Boiling water, three ounces;

Tincture of cardamoms, one dram.

Dissolve the salt and manna in the water, and having strained off the liquor, add to it the tincture of cardamoms.

This is a *very elegant and agreeable saline purgative*. Tincture of cardamoms is one of the best additions to liquors of this kind, or to the purging mineral waters, for rendering them acceptable to the stomach.

HAUSTUS DIAPHORETICUS.

Diaphoretic draught.

Take of

Water of acetated ammonia,

Syrup of white poppies,—each, half an ounce;

Salt of hartshorn, five grains.

Mix them together.

This draught is a *very powerful*

saline diaphoretic. It is given with safety, and often with great benefit, in the beginning of inflammatory fevers, after bleeding; where warm substances usually employed, if they fail in bringing out a sweat, increase the fever.

HAUSTUS DIURETICUS.

Diuretic draught.

Take of

1.

Oxymel of squills, one dram and a half;

Cinnamon water, one ounce;

Compound spirit of lavender,

Syrup of orange peel,—each, one dram.

Take of

2.

Vinegar of squills, one dram (or one dram and a half);

Kali prepared, half a dram;

Lemon juice, six drams;

Cinnamon water, an ounce and a half;

Spirit of pepper-mint, half an ounce;

Syrup of orange peel, one dram.

Let the prepared kali and lemon juice be first mixed together, and then add to them the other ingredients.

Take of

3.

Acetated kali, two scruples;

Oxymel of squills, one dram by measure;

Distilled water, an ounce and a half.

Mix them together.

Take of

4.

Tincture of cantharides, fifteen drops;

Kali prepared, half a dram;

Lemon juice, six drams;

Penny-royal water, an ounce and a half;

Simple syrup, two drams.

Mix them together.

The *two first* of these elegant and efficacious compositions are commended by Dr. MEAD, *for promoting urine in hydropic cases.* He directs them to be taken every

night, or oftener, according to the urgency of the symptoms. The squill, one of the most powerful diuretics, is, by the additions here joined to it, rendered not only more grateful to the palate and stomach, but likewise enabled more effectually to answer the purposes intended by it. The other two are taken from our hospitals; in which the former, composed on the same plan with the two preceding, is justly distinguished by the title of *mitior* or milder; and the latter, containing, besides the saline matter, a moderate dose of cantharides, by that of *fortior* or stronger.

HAUSTUS ANODYNO-DIURETICUS.

An anodyne-diuretic draught.

Take of

Water of prepared kali, half a dram;

Tincture of opium, forty drops;

Pepper-mint water, one ounce;

Cinnamon water, half an ounce;

Spirit of cinnamon, two drams;

Syrup of marshmallows, one dram.

Mix them together.

Though practitioners have rarely ventured to exhibit opium in dropsies; yet, in those which are accompanied with great pain, this anodyne drug, by easing the pain, and removing the stricture of the passages, which painful sensations always occasion, proves a medicine of great service, and notably promotes the urinary discharge. Dr. MEAD has given a remarkable instance of the good effects of the mixture above prescribed, in a person labouring under an ascites and tympany at the same time, where the pain was intolerable, the thirst intense, and the urine in very small quantity. The stronger purgatives increased the distemper; soap, alkaline salts, nitre, and other diuretics, were tried in vain:

this draught (when the patient seemed to be beyond any assistance from medicine) procured unexpected relief, not only a gentle sleep, and truce from the pain, but likewise a copious discharge of urine. By repeating the medicine, for a little time, every eight hours, and afterwards using corroborants, the cure was perfectly completed.

CHAPTER IX.

LOTIONS, GARGARISMS, INJECTIONS, &c.

AQUA ALUMINIS
COMPOSITA;
formerly
AQUA ALUMINOSA
BATANEA.
Compound alum water.
Lond.

TAKE of
Alum,
Vitriolated zinc,—each half an ounce;
Boiling distilled water, two pints.
Boil the salts in the water till they are dissolved, let the solution settle, and afterwards filter it through paper.

BATES directs the salts to be first powdered and melted over the fire; but this is needless trouble, since the melting only evaporates the aqueous parts, which are restored again on the addition of the water. This liquor is used for *cleansing* and *healing ulcers and wounds*, and for *removing cutaneous eruptions*; the part being bathed with it hot, three or four times a day. It is sometimes likewise employed as a *collyrium*; and as an *injection*, in the *gonorrhœa* and *fluor albus*, when not accompanied with virulence.

AQUA ALUMINOSA.
Alum water.

Take of
Muriated quicksilver,
Alum,—each two drams;
Water, two pints.

Let the muriated quicksilver and alum be ground into a powder, and boiled with the water, in a glass vessel, to the consumption of half the water; then suffer the liquor to settle, and pour it off clear from the sediment.

This is taken from FALLOPIUS,

with the exchange of rose and plantane waters for common water, which is equally fit for the purpose. The composition is designed chiefly for *cutaneous pustules* and *ulcerations*.

AQUA ZINCI VITRIOLATI
CUM-CAMPHORA;

formerly
AQUA VITRIOLICA CAM-
PHORATA.

Water of vitriolated zinc, with camphor.

Take of
Vitriolated zinc, half an ounce;
Camphorated spirit, half an ounce;

Boiling water, two pints.

Mix them, that the vitriol may be dissolved; and after the fæces have subsided, filter the liquor through paper.

Where a large watery diffusion takes place from the eyes, if without, or with little inflammation, it is frequently employed; but at beginning to employ it, it would be judicious to dilute it with water. In some ulcers, particularly those where it is necessary to restrain a large discharge, it is employed externally as a lotion.

AQUA ZINCI VITRIOLATI;

vulgo
AQUA VITRIOLICA.

Water of vitriolated zinc.
Edinb.

Take of
White vitriol, sixteen grains;
Water, eight ounces;
Dilute vitriolic acid, sixteen drops.

Dissolve the vitriol in the water; afterwards add the acid, and filter. Where the eyes are watery or in-

flamed, these solutions of white vitriol are very useful applications: the slightest inflammations will frequently yield to this medicine without any other assistance: in the more violent ones, venesection and cathartics are to be premised to its use.

AQUA PHAGEDÆNICA.

Phagedenic water.

Take of

Lime-water, one pint;

Muriated quicksilver, half a dram.

Let a solution be made.

This is designed for *washing and cleansing old foul ulcers, and preventing the growth of fungous flesh*. It is for most purposes rather too acrid to be used without dilution.

GARGARISMA ASTRINGENS.

Astringent gargarism.

Take of

Oak bark, one ounce;

Alum, one dram;

Honey of roses, one ounce;

Water, a pint and a half.

Boil the water with the oak bark, till the liquor, when strained, will amount only to one pint; to which add the alum and the honey.

GARGARISMA COMMUNE.

Common gargarism.

Take of

Infusion of roses, one pint;

Honey of roses, two ounces.

Mix them together.

Or,

Take of

Water, six ounces;

Nitre, one dram;

Honey of roses, one ounce.

Mix them together. Where acids are requisite, forty drops of the diluted vitriolic acid are added to this composition.

GARGARISMA DETERGENS.

Detergent gargarism.

Take of

Emollient decoction, one pint;

Tincture of myrrh, one ounce;

Honey, an ounce and a half.

Mix them together.

GARGARISMA EMOLLIENS.

Emollient gargarism.

Take of

Marshmallow-root, two ounces;

Figs, four in number;

Water, three pints.

Boil them till one pint be wasted, and then strain the liquor.

These liquors are used for washing the *mouth and fauces*; the **FIRST**, where the parts are extremely relaxed; — the **SECOND** and **THIRD**, where ulcerations require to be deterged, or the excretion of thick viscid saliva promoted; — and the **FOURTH**, where the mouth is dry, parched, and rigid, to moisten and soften it. In some cases, volatile spirits may be advantageously joined to these kinds of preparations. Dr. PRINGLE informs us, that, in the inflammatory quinsy, or strangulation of the fauces, he has observed little benefit arising from the common gargles; that such as were of an acid nature seemed to do more harm than good, by contracting the emunctories of the saliva and mucus, and thickening these humours; that the decoction of figs in milk and water seemed to have a contrary effect, especially if some water of ammoniac was added, by which the saliva was made thinner, and the glands brought to secrete more freely; a circumstance always conducive to the cure.

ENEMA DE AMYLO.

Starch glyster.

Take of

Jelly of starch, four ounces;

Linseed oil, half an ounce.

Liquefy the jelly over a gentle fire, and then mix in the oil. Forty drops of liquid laudanum are sometimes added.

ENEMA ANODYNUM, five

OPIATUM.

Anodyne, or opiate glyster.

P p 2

Take of

Infusion of linseed, six ounces;
Liquid laudanum, forty drops.

Or,

Mutton broth, five ounces;
Opium purified, three grains.

ENEMA ANTICOLICUM.

Glyster against the colic.

Take of

Common decoction, half a pint;
Aloetic wine, one ounce;
Common salt, one dram;
Linseed oil, two ounces.

Mix them together.

ENEMA ASTRINGENS.

Astringent glyster.

Take of

Lime-water, ten ounces;
Electary of catechu, half an ounce.

Mix them together for a glyster, of which one half is to be injected at a time.

ENEMA COMMUNE.

Common glyster.

Take of

Common decoction, twelve ounces;
Lenitive electary, one ounce;
Common salt, half an ounce.
Oil olive, two ounces.

Mix them together.

ENEMA DOMESTICUM.

Domestic glyster.

Take of

Cows' milk, half a pint;
Brown sugar,
Oil olive,—each one ounce.

Mix them together.

ENEMA EMOLLIENS.

Emollient glyster.

Take of

Palm oil, an ounce and a half;
Cows' milk, half a pound.

Let the oil be beaten up with the yolk of one egg, and then add the milk.

ENEMA FÆTIDUM.

Fetid glyster.

Take of

Asafœtida, one dram;
Rue,

Savin,—each two drams;

Oil olive, half an ounce;

Oil of amber, fifteen drops;

Water, nine ounces.

Boil the water with the rue and savin, till a quarter of a pint be wasted. Then strain off the remaining decoction, and mix it with it the asafœtida and the oils. The quantity of the composition here directed, is to be injected at a time.

ENEMA PURGANS.

Purging glyster.

Take of

Common decoction, half a pint;
White soap, one ounce;
Syrup of buckthorn, an ounce and a half.

Mix them together.

ENEMA TEREBINTHINATUM.

Turpentine glyster.

Take of

Common decoction, ten ounces;
Venice turpentine (dissolved in the yolk of an egg), half an ounce;

Linseed oil, one ounce.

Mix them together.

The uses of these compositions are sufficiently obvious from their titles. The *starch*, *anodyne*, *emollient*, and *astringent glysters*, are used in *dysenteries*, and *other alvine fluxes*, to strengthen the tone of the intestines, defend them from being corroded by the acrimonious humours, to heal their exulcerations, and ease the pains which accompany these disorders. — The *turpentine glyster* is injected in nephritic cases; — the *fetid* in hysteric ones. The others are calculated for unloading the intestines of their contents, where the exhibition of purgatives in other forms is improper, or unsafe. Glysters have been looked upon by some a mere topical applications, whose operation was confined to the intestine, into which they are received. But experience has shewn, that in many

cases their action is extended much further. Thus the turpentine glyster promotes the discharge by the kidneys, and communicates to the urine a violet smell; and the anodyne glyster proves narcotic, as if a moderate dose of opium had been swallowed. Persons have been inebriated by spirituous glysters; and some affirm, that life has been supported for several days, by those of a nutritious kind.

INJECTIO BALSAMICA.

Balsamic injection.

Take of

Balsam of Copaiba, half an ounce;

Lime-water, six ounces;

Honey of roses, two ounces.

Let the balsam be well beaten up

with the yolk of one egg; and then gradually add the lime-water and honey.

INJECTIO MERCURIALIS.

Mercurial injection.

Take of

Quicksilver,

Balsam of Copaiba,—each half an ounce;

Rose-water, half a pint.

Rub the quicksilver with the balsam, till they be perfectly incorporated, then mix with them the yolk of an egg, and afterwards add the rose-water.

This and the foregoing preparation are designed to be injected into the urethra in virulent gonorrhœas, for cleansing and detaching the parts.

CHAPTER X.

PLASTERS.

PLASTERS are composed chiefly of oily and unctuous substances, united with powders, into such a consistence, that the compound may remain firm in the cold, without sticking to the fingers; that it may be soft and pliable in a small heat; and that by the warmth of the human body it be so tenacious, as readily to adhere both to the part on which it is applied, and to the substance on which it is spread.

There is however a difference in the consistence of plasters, according to the purposes to which they are to be applied: thus, such as are intended for the breast and stomach, should be very soft and yielding; whilst those designed for the limbs are made firmer and more adhesive.

An ounce of expressed oil, an ounce of yellow wax, and half an ounce of any proper powder, will make a plaster of the first consistence;—for a HARD one, an ounce more of wax, and half an ounce more of powder, may be added. Plasters may likewise be made of resins, gummy resins, &c. without wax, especially in extemporaneous prescription: for officinals, these compositions are less proper, as they soon grow too soft in keeping, and fall flat in a warm air.

It has been supposed, that plasters might be impregnated with the specific virtues of different vegetables, by boiling the recent vegetable with the oil employed for the composition of the plaster. The coction was continued till the herb was almost crisp, with care to prevent the matter from contracting a black colour; after which the li-

quid was strained off, and set on the fire again till all the aqueous moisture had exhaled. We have already observed, that this treatment does not communicate to the oils any very valuable qualities, even relative to their use in a fluid state: much less can plasters, made with such oils, receive any considerable efficacy from the herbs.

Calces of lead, boiled with oils, unite with them into a plaster of an excellent consistence, and which makes a proper basis for several other plasters.

In the boiling of these compositions, a quantity of water must be added, to prevent the plaster from burning and growing black. Such water, as it may be necessary to add during the boiling, must be previously made hot: for cold liquor would not only prolong the process, but likewise occasion the matter to explode, and be thrown about with violence, to the great danger of the operator. This accident will equally happen upon the addition of hot water, if the plaster be extremely hot.

EMPLASTRUM ANODYNUM.

Anodyne plaster.

Take of

White resin, eight ounces;
Tacamahaca, in powder,
Galbanum,—each four ounces;
Cummin seeds, three ounces;
Black soap, four ounces.

Melt the resin and the gums together; then add the powdered seeds and the soap, and make the whole into a plaster.

This plaster sometimes gives ease in *slight rheumatic pains*, which it is supposed to effect by preventing the afflux of humours to the part, and putting in motion and repelling such as already stagnate there.

EMPLASTRUM ASÆFETIDÆ;

formerly

EMPLASTRUM ANTIHYSTERICUM.

Edinb.

Take of

Plaster of litharge,
Asafœtida, stained,—of each two
parts,
Yellow wax,
Galbanum, strained,—of each
one part.

This plaster is applied to the umbilical region, or over the whole abdomen, in *hysteric cases*; and sometimes with good effect.

EMPLASTRUM CERÆ COMPOSITUM;

E. L.

formerly

EMPLASTRUM ATTRAHENS.

Compound plaster of wax.

Lond.

Take of

Yellow resin, one pound;
Yellow wax,
Tried mutton suet,—each three
pounds;

Melt them together, and whilst the mass remains fluid, pass it through a strainer.

This is a very well contrived plaster for the purpose expressed in its title. It is calculated to supply the place of melilot plaster: whose great irritation, when employed for the dressing of blisters, has been continually complained of. This was owing to the large quantity of resin contained in it, which is here for that reason retrenched. It should seem that, when designed only for dressing blisters, the resin ought to be

entirely omitted, unless where a continuance of the pain and irritation, excited by the vesicatory, is required. Indeed plasters of any kind are not very proper for this purpose: their consistence makes them sit uneasy, and their adhesiveness renders taking them off painful. CERATES, which are softer and less adhesive, appear much more eligible. The *ceratum spermatis ceti* will serve for general use: and, for some particular purposes, the *ceratum resinæ flavæ* may be applied.

EMPLASTRUM SIMPLEX;

vulgo

EMPLASTRUM CEREUM.

Simple plaster.

Edinb.

Take of

Yellow wax, three parts;
Mutton suet,
White resin,—of each two parts.

This plaster is similar to the foregoing, but the further reduction of the resin renders it for some purposes more eligible.

EMPLASTRUM AD CLAVOS PEDUM.

Plaster for corns on the feet.

Take of

Galbanum dissolved in vinegar,
and again inspissated, one
ounce;

Pitch, half an ounce;

Litharge plaster, two drams,

Let them be melted together, and then mix with them

Verdegris powdered,

Sal ammoniac, each one scruple;

And make them into a plaster.

This plaster has been much celebrated for the removal of corns, and for alleviating those pains, which they are apt to occasion.—There can be little doubt but that corns may be softened by some of the ingredients of which it is composed: but probably the acrimonious materials may, on the first application, rather contribute to

increase than mitigate pains, from their strong stimulating power.

EMPLASTRUM PICIS BURGUNDICÆ COMPOSITUM;

formerly
EMPLASTRUM CEPHALICUM.

Compound plaster of Burgundy pitch.
Lond.

Take of

Burgundy pitch, two pounds;
Soft labdanum, one pound;
Yellow resin,
Yellow wax,—each four ounces;
The expressed oil of nutmegs,
one ounce.

Melt the pitch, resin, and wax together; then add, first the labdanum, and afterwards the oil of nutmeg.

This plaster is applied, in *weakness* or *pains of the head*, to the temples, forehead, &c. and sometimes likewise to the feet. Schulze relates, that an inveterate rheumatism in the temples, which at times extended to the teeth, and occasioned intolerable pain, was completely cured in two days by a plaster of this kind (with the addition of a little opium) applied to the part, after many other remedies had been tried in vain. He adds, that a large quantity of liquid matter exuded under the plaster, in drops, which were so acrid as to corrode the cuticle.

The efficacy of the plaster is attributed more to the stimulating power of the Burgundy pitch than to any other ingredient; for when applied by itself to a tender skin, it often produces vesication, and constantly as a rubefacient, creating a severe discharge very frequently.

EMPLASTRUM de CICUTA, cum AMMONIACO.

Plaster of hemlock, with ammoniacum.

Take of

Juice of hemlock leaves, four ounces;

Gum ammoniacum, eight ounces;
Vinegar of squills, as much as is sufficient to dissolve the gum.

Add the juice to this solution, and having strained the mixture, boil it to the consistence of a plaster.

Or it may be made in the following manner:

Take of

Yellow wax, half a pound;
Olive oil, four ounces;
Gum ammoniacum, half an ounce.

After they are melted together, mix with them powdered herb of hemlock, half an ounce.

These plasters were formerly supposed to be *powerful coolers* and *discutients*, and to be particularly serviceable against *swellings of the spleen* and *distensions of the hypochondres*. For some time past, it has been among us entirely neglected. But the high resolvent power which Dr. Stock has discovered in hemlock, and which he found it to exert in this as well as in other forms, entitles it to further trials. The plasters appear very well contrived, and the additional ingredients well chosen for assisting the efficacy of the hemlock.

EMPLASTRUM LITHARGYRI:

Lond. Edinb.

formerly

EMPLASTRUM COMMUNE.

Litharge plaster, usually called, Diachylon.

Lond.

Take of

Oil olive, one gallon;
Litharge, ground into a most subtil powder, five pounds.

Boil them over a gentle fire with about two pints of water, keeping them continually stirring, till the oil and litharge unite, and acquire the consistence of a plaster. If all the water should

be consumed before this happens, add some more water previously made hot.

Edinb.

Take of

Oil olive, two parts;

Litharge, one part.

The water being added, boil, diligently stirring until the litharge and oil unite into a plaster.

The heat in these processes should be gentle, and the matter kept continually stirring, otherwise it swells up, and is apt to run over the vessel. If the composition proves discoloured, the addition of a little white lead and oil will improve the colour.

These plasters are the common application in *excoriations of the skin, slight flesh wounds*, and the like. They keep the part soft, and somewhat warm, and defend it from the air, which is all that can be expected in these cases from any plaster. Some of our industrious medicine-makers have thought these purposes might be answered by a cheaper composition, and accordingly have added a large quantity of common whiting and hog's lard. This, however, is by no means allowable, not only as it does not stick so well, but likewise as the lard is apt to grow rancid and acrimonious. The counterfeits are distinguishable by the eye.

EMPLASTRUM LITHARGYRI cum RESINA.

Lond.

RESINOSUM.

Edinb.

formerly

EMPLASTRUM COMMUNE ADHÆSIVUM.

Litharge plaster with resin.

Lond.

Take of

Common plaster, three pounds;

Yellow resin, half a pound.

Melt the common plaster over a very gentle fire; then add the resin, first reduced into powder,

that it may melt the sooner; and mix them all together.

This plaster may otherwise be made, by taking, instead of the common plaster, its ingredients oil and litharge; and adding the resin a little before they have come to the due consistence; then continue the boiling, till the plaster is finished.

It turns out the most elegant when made by this last method.

Edinb.

Take of

Common plaster, five parts;

White resin, one part.

These plasters are used chiefly as adhesives, for keeping on other dressings, &c.

EMPLASTRUM LITHARGYRI COMPOSITUM;

formerly

EMPLASTRUM COMMUNE cum GUMMI.

Compound litharge plaster.

Lond.

Take of

Litharge plaster, three pounds;

Galbanum strained, eight ounces;

Common turpentine, ten drams;

Frankincense, three ounces.

Melt the galbanum with the turpentine, over a gentle fire, and sprinkle in the frankincense, reduced to powder: then gradually mix with these the litharge plaster, previously liquefied by a very gentle heat.

Or, instead of the litharge plaster already made, you may take the oil and litharge boiled together. As soon as these unite, before they have acquired the consistence of a plaster, the other ingredients are to be added.

EMPLASTRUM GUMMOSUM.

Gum plaster.

Edinb.

Take of

Litharge plaster, eight parts;

Gum ammoniac, strained,

Galbanum, strained,

Yellow wax,—of each one part.

Both these plasters are used as digestives and suppuratives; particularly in abscesses, after a part of the matter has been maturated and discharged, for suppurating or discharging the remaining hard part; but whether they derive any advantage from the gums is a very doubtful point.

EMPLASTRUM CUMINI.

Cummin plaster.

Lond.

Take of

Burgundy pitch, three pounds;

Yellow wax,

Cummin seeds,

Caraway seeds,

Bay berries.—each three ounces.

Melt the pitch with the wax; then sprinkle in the other ingredients, first reduced into a powder, and mix the whole well together.

This plaster stands recommended as a moderately warm discutient; and is directed by some to be applied to the hypogastric region, for *strengthening the viscera, and expelling flatulencies.*

It is doubted whether this plaster derives any advantage from either of the seeds or bayberries, which assist in forming its composition—the Burgundy pitch is alone considered as the active ingredient.

EMPLASTRUM LITHARGYRI COMPOSITUM;

vulgo

EMPLASTRUM DEFENSIVUM seu

ROBORANS.

Edinb.

Compound litharge plaster.

Take of

Litharge plaster, twenty-four parts;

White resin, six parts;

Yellow wax,

Olive oil,—of each three parts;

Vitriolated iron calcined, eight parts.

Rub the colcothar with the oil, and afterward add it to the rest when melted.

This plaster is laid round the lips of wounds and ulcers, over the other dressings, for defending them from inflammation, and a fluxion of humours; which however, as Mr. SHARP very justly observes, plasters, on account of their consistence, tend rather to bring on than to prevent.

EMPLASTRUM AMMONIACI cum HYDRARGYRO;

formerly

EMPLASTRUM ex AMMONIACO cum MERCURIO.

Plaster of ammoniacum with quicksilver.

Lond.

Take of

Gum ammoniacum strained, one pound;

Purified quicksilver, three ounces; Sulphurated oil, one dram by weight, or what is sufficient.

Grind the quicksilver with the sulphurated oil, till it cease to appear; then, having melted the ammoniacum, add it gradually, a little before it cools, to this mixture; and let the whole be perfectly mingled together.

This is a very well contrived mercurial plaster. If in some cases it should not prove adhesive enough, the addition of a small quantity of turpentine will readily make it so.

EMPLASTRUM de BELLADONNA.

Plaster of deadly night shade.

Take of

Juice of the recent herb belladonna,

Linseed oil,—each nine ounces;

Yellow wax, six ounces;

Venice turpentine, six drams;

Powder of the herb of belladonna, two ounces.

Let them be formed into a plaster according to art. It has been said that *BELLADONNA* externally applied has a very powerful influence both on the nerves and blood vessels of the parts; and hence considerably affects both the circulation, and the state of sensibility of the part; and hence when applied, particularly in affections of the *mammæ* and *scrotum*, in form of plaster, it has *alleviated very great pains*, and had great influence in *discharging tumors*, and *promoting a favourable suppuration*.

EMPLASTRUM LITHARGYRI CUM HYDRARGYRO;

formerly

EMPLASTRUM COMMUNE CUM MERCURIO.

Litharge plaster with quicksilver.

Lond.

Take of

Litharge plaster, one pound;

Quicksilver, three ounces;

Purified sulphurated oil, one dram by weight, or what is sufficient.

Make them into a plaster, after the same manner as the *emplastrum ammoniaci cum mercurio*.

EMPLASTRUM HYDRARGYRI;

vulgo

CÆRULEUM.

Quicksilver plaster.

Edinb.

Take of

Olive oil,

White resin,—of each one part;

Quicksilver, three parts;

Litharge plaster, six parts.

Melt the oil and resin together, and when cold, rub the quicksilver with them till perfectly incorporated; then add the common plaster melted, by degrees, and accurately mix the whole together.

These mercurial plasters are looked on as *powerful resolvents and discutients*, acting with much great-

er certainty in these intentions, than any composition of vegetable substances alone; the mercury exerting itself in a considerable degree, and being sometimes introduced into the habit in such quantity as to effect the mouth. *Pains in the joints and limbs* from a venereal cause, *nodes, tophi*, and *beginning indurations of the glands*, are said sometimes to yield to them.

EMPLASTRUM THURIS

COMPOSITUM;

formerly

EMPLASTRUM ROBORANS.

Strengthening plaster.

Take of

Litharge plaster, two pounds;

Frankincense, half a pound;

Dragon's blood, three ounces.

Melt the common plaster, and add to it the other ingredients reduced into a powder.

The dragon's blood should be reduced to a very fine powder, otherwise the mixture will not be of an uniform colour.

This is a reformation of the laborious and injudicious composition described in our preceding Pharmacopœias, under the title of *EMPLASTRUM AD HERNIAM*; and though far the most elegant and simple, is as effectual for that purpose as any of the medicines of this kind. If constantly worn, with a proper bandage, it will, in children, frequently do service; though perhaps not so much from any strengthening quality of the ingredients, as from its being a soft, close, and adhesive covering. It has been supposed, that plasters composed of styptic medicines constringe and strengthen the part to which they are applied; but on no very just foundation; for plasters in general relax rather than astringe; the unctuous ingredients, necessary in their composition, counteracting and destroying the effect of the others.

EMPLASTRUM SAPONIS.

*Soap plaster.
Lond.*

Take of

Litharge plaster, three pounds;
Hard soap, half a pound.

Having melted the common plaster, mix with it the soap, and boil them to the consistence of a plaster. Take care not to let it grow too cold, before you form it into rolls, for then it will prove too brittle.

EMPLASTRUM SAPONACEUM.

*Saponaceous plaster.
Edinb.*

Take of

Litharge plaster, four parts;
Gum plaster, two parts;
Spanish soap, shaved thin, one part.

Melt the plasters together, and add the soap; afterwards boil it a little, that it may make an em-plaster.

These plasters have been called resolvents from the soaps of which they are formed, and the last is supposed to possess superior resolvent powers from the gum plasters with which the soap is united; but some practitioners greatly doubt whether any advantage is derived from either addition.

EMPLASTRUM LADANI COMPOSITUM;

formerly

EMPLASTRUM STOMACHICUM.

*Compound plaster of ladanum.
Lond.*

Take of

Ladanum, three ounces;
Frankincense, one ounce;
Cinnamon, powdered,
The expressed oil of nutmegs,
—each half an ounce;
Oil of spear mint, one dram.

Having melted the frankincense, add to it first the ladanum softened by heat, and then the oil

of nutmegs. Afterwards mix these with the cinnamon and oil of mint; and beat them together in a warm mortar, into a mass, which is to be kept in a close vessel.

This is a very elegant stomach plaster. It is contrived so as to be easily made occasionally (for these kinds of compositions, on account of their volatile ingredients, are not fit for keeping), and to be but moderately adhesive, so as not to offend the skin; and that it may without difficulty be frequently taken off and renewed, which these sorts of applications, in order to their producing any considerable effect, require to be.

This plaster is applied to the pit of the stomach, in *weakness of that viscus, in vomitings, the disorder improperly called the heartburn, &c.* and sometimes with success. The pit of the stomach, however, as HOFFMAN has observed, is not always the most proper place for applications of this kind. If applied to the *five lower ribs of the left side, towards the back, the stomach will in general receive more benefit from them;* for it appears from anatomical inspection, that greatest part of it is situated there.

EMPLASTRUM CANTHARIDIS:

formerly

EMPLASTRUM VESICATORIUM.

Blistering plaster.

*Plaster of cantharis.
Lond.*

Take of

Plaster of wax, two pounds;
Cantharides, very finely powdered, one pound;
Prepared hog's lard, half a pound.
Melt the plaster and lard, and, a little before they coagulate, mix in the cantharides.

Edinb.

Take of

Sheep's suet,
Yellow wax,
White resin,

Cantharides, in fine powder,—of each an equal quantity.

After the rest are melted, remove them from the fire, and add the cantharides.

Cantharides, if good, seldom fail, when applied to the skin, of raising blisters; if therefore the plaster formed of them should not succeed in common cases, it is either owing to mismanagement, or badness of the cantharides themselves. Great care should be taken in the selection of such as are very fresh, and the plaster should not be over-heated in the making, nor should the plaster, when made for application, be spread with too hot a spatula; for either one or the other of these circumstances will prevent their effect from being properly produced.

If sufficient attention be paid to the circumstances necessary to be observed in forming and applying this composition, they answer every purpose fully, and as effectually as the more elaborate compositions formerly used; which had united with cantharides, black pepper, mustard, vinegar, verdegris, Venice turpentine, &c.

To some constitutions blistering is a very painful application; which some have thought might be mitigated, by the addition of

opium, without preventing the good effects for which they were applied.

EMPLASTRUM ANODYNO- DISCUTIENS.

An anodyne and discutient plaster.

Take of

Cummin plaster, two ounces;
Camphor, three drams;
Thebaic extract, one dram and a half.

Grind the camphor, with some drops of oil olive, into a very subtil powder, and then mix it with the other ingredients, according to art, into a plaster.

EMPLASTRUM CALIDUM.

Warm plaster.

Take of

Gum plaster, one ounce;
Blistering plaster, two drams.

Melt them together over a gentle fire.

EMPLASTRUM SUPPURANS.

Suppurating plaster.

Take of

Gum plaster, an ounce and a half;

Burgundy pitch, half an ounce.

Melt them together.

The uses of the three foregoing compositions, which are taken from our hospitals, are sufficiently obvious from their titles. The warm plaster is a very stimulating application, of great use in fixt pains; as in the rheumatism, sciatica, beginning chilblains, &c.

CHAPTER XI.

OINTMENTS, LINIMENTS, AND CERATES.

OINTMENTS and liniments differ from plasters little otherwise than in consistence. An officinal plaster, diluted with so much oil as will reduce it to the thickness of stiff honey, forms an ointment: by further increasing the oil, it becomes a liniment.

For making ointments, the college of Edinburgh give the following directions. Let the fatty and resinous substances be melted over a slow fire, afterwards they should be diligently stirred, sprinkling in at the same time the dry ingredients, if there should be any, reduced to a very fine powder, until the mixture cooling becomes of a proper consistence.

UNGUENTUM CERÆ;

formerly

UNGUENTUM ALBUM.

Wax ointment.

Lond.

Take of

Oil olive, one pint;

White wax, four ounces;

Spermaceti, three ounces.

Liquefy them by a gentle fire, and keep them constantly and briskly stirring, till grown thoroughly cold.

UNGUENTUM CERUSSÆ;

vulgo

UNGUENTUM ALBUM.

Cerufs ointment.

Edinb.

Take of

Simple ointment, five parts;

Ceruse, one part. M. S. A.

These are useful, cooling, emollient ointments, of service in excoriations, and similar frettings of the

skin. The cerufs is omitted in the first prescription, on a suspicion that it might produce some ill effect, when applied, as these unguents frequently are, to the tender bodies of children. Though there does not seem to be much danger in this external use of cerufs, the addition of it is the less necessary here, as there is another ointment containing a more active preparation of the same metal, the *unguentum cerussæ acetatæ*; which may be occasionally mixed with this, or employed by itself, in cases where saturnine applications are wanted.

UNGUENTUM ÆRUGINIS.

Ointment of verdigris.

Edinb.

Take of

Ointment of white resin, fifteen parts;

Verdigris in fine powder, one part.

This is used for cleansing sores, and keeping down fungous flesh. When, from local debility of the vessels, ulcers continue to run, the tonic power of verdigris promises considerable advantage.

When it is a little reduced with hog's lard, or the ointment of sheep's suet, it is frequently used in cases of ophthalmia depending on scrophula, where the eye lids are principally affected, and with advantage.

UNGUENTUM ANODYNUM.

Anodyne ointment.

Take of

Olive oil, ten drams;

Yellow wax, four drams;

Crude opium, one dram.

Mix them according to art so as to form an ointment.

This is an useful application for alleviating pain, and though it does not act so quickly as the anodyne balsam, still its action is more permanent.

Besides it is an useful dressing for sores attended with severe pains, to which opium when dissolved in spirit cannot be applied.

UNGUENTUM HÆMOR- RHOIDALE.

Ointment for the piles.

Take of

Galls, finely powdered, two drams;

Camphor, half a dram;

Hog's lard prepared, one ounce.

The camphor must be first powdered and incorporated with the lard, then let the galls be added.

This ointment is a very useful application for the *piles*, especially if the use of leeches have been pre-mised.

UNGUENTUM RESINÆ FLAVÆ;

formerly

UNGUENTUM BASILICUM FLAVUM.

Yellow ointment of resin.

Lond.

Take of

Oil olive, one pint;

Yellow wax,

Yellow resin,—each one pound.

Melt the wax and resin, over a gentle fire; then add the oil, and whilst the mixture remains hot, strain it.

Edinb.

Take of

Hog's lard, eight parts;

White resin, five parts;

Yellow wax, two parts.

Dissolve them over a gentle fire.

These are commonly employed in dressings, for *digesting*, *cleansing*, and *incarnating* wounds and ulcers.

UNGUENTUM BASILICUM VIRIDE.

Green basilicum ointment.

Lond.

Take of

Yellow basilicum, eight ounces;

Oil olive, three ounces by measure;

Verdigris prepared, one ounce.

Mix and make them into an ointment.

This ointment is an efficacious detergent. Our hospitals have been accustomed to prepare an ointment greatly resembling this, under the title of *Unguentum viride detergens*.

UNGUENTUM HYDRAR- GYRI;

vulgo

UNGUENTUM CÆRULEUM.

Quicksilver ointment.

Take of

Quicksilver,

Mutton suet,—each one part:

Hog's lard, three parts.

Rub them diligently together in a mortar, until the globules totally disappear.

UNGUENTUM HYDRAR- GYRI NITRATI FORTIUS;

Lond. and Edinb.

vulgo

UNGUENTUM CITRINUM.

Strong ointment of nitrated quicksilver.

Edinb.

Take of

Quicksilver, one ounce;

Nitrous acid, two ounces;

Hog's lard, prepared, one pound.

Dissolve the quicksilver in the spirit of nitre, by digestion in a sand-heat; and, whilst the solution is very hot, mix with it the lard, previously melted by itself, and just beginning to grow stiff. Stir them briskly together, in a marble mortar, so as to form the whole into an ointment. By adding double the quantity of prepared hog's lard,

the UNGUENTUM HYDRARGYRI NITRATI MITIUS is formed.

Though the activity of this nitrated mercurial salt is moderated by the animal fat with which it is joined; yet it forms a very active ointment; and is frequently employed with success in cutaneous cases; and other topical affections. In this state the saline substance does not enter the habit so quickly as the quicksilver does in the other ointments in which it makes the principal ingredient; hence in some cases it is employed with more freedom. But should it, as it sometimes does, excoriate, and inflame the parts; or should it grow hard, as it is apt to do from the action of the acid upon the lard, it will be then necessary to reduce the strength of the ointment, by the addition of more lard.

UNGUENTUM HYDRARGYRI FORTIUS;

formerly

UNGUENTUM CÆRULEUM FORTIUS.

Stronger ointment of quicksilver.
Lond.

Take of

Hog's lard, prepared, twenty-three ounces;

Quicksilver, two pounds;

Mutton suet, prepared, one ounce.

Grind the quicksilver with the suet, and a little hog's lard, till the globules disappear; then gradually add the remainder of the lard, and mix them carefully together.

UNGUENTUM HYDRARGYRI MITIUS;

formerly

UNGUENTUM CÆRULEUM MITIUS.

Milder ointment of quicksilver.
Lond.

Take of

The stronger ointment of quicksilver, one part;

Hog's lard, prepared, two parts.
Mix them.

Mercurial unguents have in many cases the same effects with the preparations of this mineral taken internally; and are at present frequently employed, not only against *cutaneous disorders*, as alterants; but likewise in venereal and other obstinate cases, for raising a salivation. The ptyalism excited by unction is said to be attended with the fewest inconveniencies, and to perform the most complete cure. In some constitutions, mercurials taken inwardly, run off by the intestines, without affecting the mouth; and in others, they affect the salival glands so quickly, as to occasion a copious ptyalism, without extending their action to the remoter parts, and consequently without removing the cause of the disease.

The simple manner in which these ointments are made forms one of their excellencies, as they can be rubbed much longer on the skin, without fretting or excoriating it, as they used to do when turpentine and sulphurated oil were used to destroy the globulous appearances of the quicksilver. In some very tender skins, even these ointments will occasion some uneasiness; the parts must then be occasionally changed, at which the friction is performed; for whatever parts are made choice of, the quicksilver will be absorbed into the habit; though the insides of the legs and thighs are the places where the operation is first begun.

UNGUENTUM GUMMI ELEMI COMPOSITUM.

Compound ointment of gum elemi.
Lond.

Take of

Mutton suet, prepared, two pounds;

Gum elemi, one pound;

Common turpentine, ten ounces;

Olive oil, two ounces.

Melt the gum with the suet, and having taken them from the fire, immediately mix in the turpentine and oil; then, whilst the mass remains fluid, strain it off.

This unguent has long been in use for *digesting, cleansing, and incarnating*; and for these purposes is preferred by some to all the other compositions of this kind.

UNGUENTUM HELLEBORI ALBI.

Ointment of white hellebore.

Take of

White hellebore, powdered, one ounce;

Ointment of hog's lard, four ounces;

Oil of lemon, half a scruple.

Mix, and make an ointment.

This is considered as an elegant application for cutaneous affections, from the hellebore, which has been held for a long time in high estimation for complaints of this sort; and this is said to be the best mode of externally applying it. It is also used externally in form of lotions, and has in many cases proved efficacious.

UNGUENTUM NICOTIANÆ.

Ointment of tobacco.

Take of

Tobacco, cut very small, five ounces;

Hog's lard, one pound and an half.

Let these be boiled together over a slow fire for two or three hours; then strained whilst hot, and strongly pressed through linen; or the tobacco may be first infused in a pint or more of boiling water, and, when cold, added to the lard, and boiled together

till the water is perfectly evaporated.

This ointment, it is said, will afford an effectual cure for many cutaneous affections.

UNGUENTUM CALCIS HYDRARGYRI ALBI;

formerly

UNGUENTUM E MERCURIO PRÆCIPITATO.

Ointment of white calx of quicksilver.

Lond.

Take of

Simple ointment, an ounce and a half;

White calx of quicksilver, one dram.

Mix and make an ointment.

This is a very elegant mercurial ointment, and frequently made use of against cutaneous disorders. In the last Pharmacopœia, two drams of precipitated sulphur was added, which is in this omitted, and one scruple more of the calx added; which may be considered as a great improvement, in as much as the ointment now is deprived of its offensive smell, and is made more active.

UNGUENTUM OPHTHALMICUM.

Eye ointment.

Take of

Ointment of tutty, an ounce and a half;

Saturaine ointment, half an ounce;

Camphor, half a dram.

Mix and make them into an ointment according to art.

This ointment may likewise be made with two, three, or more times the quantity of camphor.

This unguent is very well contrived for the purpose expressed in its title; scarce any of those commonly met with being of equal efficacy in *inflammations, and hot acrid defluxions on the eyes*. But as a good deal of caution is requisite in

the use of saturnine applications for so tender an organ as the eye; and as compositions of this kind may be easily formed extemporaneously, with such proportions of the ingredients as the prescriber shall think fit; the Edinburgh Pharmacopœia has now omitted it.

UNGUENTUM PICIS.

Ointment of tar.

Lond.

Take of

Mutton suet, prepared,
Tar,—each, equal weights.

Melt them together, and strain the mixture whilst hot.

Edinb.

Take of

Liquid pitch, five parts;
Yellow wax, two parts.

These compositions, with the addition of half their weight of resin, have long been used in the shops as a cheap substitute for the black balsicum.

These ointments, from the tar which they contain, have been considered to possess some activity, and have been successfully employed against some cutaneous affections, particularly those of domestic animals; and they have frequently been useful in the *tinea capitis*; but have little share in the present practice.

UNGUENTUM SAMBUCI.

Ointment of elder.

Lond.

Take of

Elder flowers, full blown, four pounds;

Mutton suet, prepared, three pounds;

Oil olive, one pint.

Melt the suet with the oil, and in this mixture boil the flowers till they be almost crisp. Then strain and press out the ointment.

This ointment does not seem superior to some others, which are much neater, and preparable at less expense. It can scarcely be

supposed to receive any considerable virtue from the ingredients from which it takes its name.

UNGUENTUM CERUSSÆ ACETATÆ;

Lond. and Edinb.

formerly

UNGUENT. SATURNINUM.

Ointment of acetated ceruss.

Lond.

Take of

Oil olive, half a pint;

White wax, two ounces;

Acetated ceruss, two drams.

Let the acetated ceruss, reduced into a very subtil powder, be ground with some part of the oil, and the wax melted with the rest of the oil. Mix both together, and keep them stirring till the ointment be cold.

Edinb.

Take of

Simple ointment, twenty parts;
Acetated ceruss, one part.

Both these ointments are *useful coolers and desiccatives*; much superior both in elegance and efficacy to the *nutritum* or *tripharicum*, held at one time in such high estimation.

UNGUENTUM ADIPIS SUILLÆ;

formerly

UNGUENTUM SIMPLEX.

Ointment of hog's lard.

Lond.

Take of

Hog's lard, tried, two pounds;
Rose water, three ounces by measure.

Beat the lard with the rose water, till they be well mixed. Then melt them over a very gentle fire, and wait, that the water may subside: pour the lard off from the water, and stir it well till it grows cold.

UNGUENTUM ROSACEUM;

vulgo

POMATUM.

The rose ointment, commonly called pomatum.

Edinb.

On any quantity of hog's lard, cut into small pieces, and placed in a glazed earthen vessel, pour as much water as will rise above it some inches; and digest them together for ten days, renewing the water every day. Then liquefy the lard with a very gentle heat, and pour it into a proper quantity of rose water. Work them well together; and afterwards, pouring off the water, add to the lard some drops of oil of rhodium.

These ointments are in common use for softening and smoothing the skin, and healing chaps.

The last seems to be superior, as being of a firmer consistence, and likely to remain longer when applied to the part affected. It is also preferred as the basis of other more compound ointments.

UNGUENTUM SIMPLEX.

Simple ointment.

Edinb.

Take of

Oil of olives, five parts;

White wax, two parts.

UNGUENTUM SULPHURIS.

Ointment of sulphur.

Lond.

Take of

Hog's lard, half a pound;

Flowers of sulphur, four ounces;

Essence of lemons, one scruple.

Mix them together.

UNGUENTUM SULPHURIS.

vulgo

UNGUENTUM ANTIPSORICUM.

Ointment of sulphur.

Edinb.

Take of

Sulphur, finely powdered, one part;

Hog's lard, four parts.

Mix, and make them into an ointment.

To every pound of this ointment, half a dram or a dram of oil of lavender, or essence of lemon, may be added.

Sulphur is a *certain remedy for the itch*, more safe and efficacious than mercury. For, as Dr. PRINGLE observes, unless a mercurial unction were to touch every part of the skin, there can be no certainty of success; whereas, by a sulphureous one, a cure may be obtained by only partial unction; the animalcula, which occasion this disorder, being, like other insects, killed by the sulphureous steams which exhale by the heat of the body. As to the internal use of mercury, which some have accounted a specific, there are several instances of men's undergoing a complete salivation for the cure of the lues venerea, without being freed from the itch. But on the contrary, it has been advanced, there have been numberless instances, where men have not been cured by a long course of sulphur, when mercury has afterwards succeeded.

The quantity of ointment, here directed, serves for four unctions: the patient is to be rubbed every night; but to prevent any disorder that might arise from stopping too many pores at once, *a fourth part of the body is to be rubbed at one time.* Though the itch may thus be cured by one pot of ointment, it will be proper to renew the application, and to touch the parts most affected, for a few nights longer, till a second quantity also be exhausted; and, in the worst cases, to subjoin the internal use of sulphur, not with a view to purify the blood, but to diffuse the steams more certainly through the skin; there being reason to believe, that the animalcula may sometimes lie too deep to be thoroughly destroyed by external applications.

UNGUENTUM TUTIÆ.

Ointment of tutty.

Lond.

Let any quantity of prepared tutty be mixed with as much *ointment of spermaceti*, as is sufficient to reduce it into the consistence of a soft ointment.

Edinb.

Take of

Simple liniment, five parts;

Tutty prepared, one part.

UNGUENTUM ZINCI.

Ointment of zinc.

Edinb.

Take of

Simple liniment, six parts;

Calcined zinc, one part.

These ointments are much employed in affections of the eyes; the latter of which is thought most eligible; because the others are supposed to derive their power from the quantity of zinc they contain, and it is on this account, that the lapis calaminaris is preferred to tutty, in these cases.

UNGUENTUM CANTHARIDIS;

formerly

UNGUENTUM AD VESICATORIA.

Lond.

Ointment of cantharis.

Take of

Cantharis powdered, two ounces;

Distilled water, eight ounces;

Ointment of yellow resin, eight ounces.

Boil the water with the cantharides to one half, and strain. To the strained liquor add the ointment of yellow resin. Evaporate this mixture in a water-bath saturated with sea salt, to the consistence of an ointment.

UNGUENTUM VERMIFUGUM.

Ointment against worms.

Take of

Lavender cotton,

Wormwood,

Rue,

Savin,

Tansy leaves, fresh gathered,—each, two ounces;

Oil olive, a pint and a half;

Hog's lard, one pound;

Yellow wax, three ounces;

Ox gall,

Socotorine aloes,—each, an ounce and a half;

Coloquintida,

Wormseed,—each, one ounce.

Bruise the herbs, and boil them with the oil and lard, till the aqueous moisture be evaporated; then press the liquor through a strainer, melt in it the wax, and afterwards add the other ingredients, boiling and stirring them together, so as to make an ointment. The aloes, coloquintida, and wormseed, must be previously reduced into a very subtil powder.

This ointment is rubbed on the bellies of children for destroying worms, and *sometimes*, as is said, *with success*. It is taken from a preceding edition of the Edinburgh Pharmacopœia; since which it is omitted.

UNGUENTUM PULVERIS CANTHARIDUM FORTIUS.

Ointment of the powder of cantharides.

Edinb.

Take of

Basilicum ointment, seven parts;

Cantharides, powdered, one part.

This ointment is added in the dressings for blisters, intended to be made perpetual, as they are called, or to be kept running for a considerable time, which, in many chronic, and some acute cases, they are required to be. Particular care should be taken, that the cantharides employed in this composition be reduced into very subtil powder, and that the mixture be made as equal and uniform as possible.

UNGUENTUM INFUSI CANTHARIDUM MITIUS.

Ointment of the infusion of cantharides.

Edinb.

Take of

Cantharides,
White resin,
Yellow wax,—each, one ounce;
Hog's lard,
Venice turpentine,—each, two
ounces;

Boiling water, four ounces.

Infuse the cantharides in the water, in a close vessel, for a night; then strongly press out and strain the liquor, and boil it with the lard till the watery moisture be consumed; then add the resin, wax, and turpentine, and make the whole into an ointment.

This ointment, containing the soluble parts of the cantharides uniformly blended with the other ingredients, is more commodious, and occasions less pain, though not less effectual in its intention, than the foregoing composition with the fly in substance.

UNGUENTUM SPERMATIS
CETI;

formerly

LINIMENTUM ALBUM.

Ointment of spermaceti.

Lond.

Take of

Oil olive, three ounces by measure;

Spermaceti, six drams;

White wax, two drams.

Melt them together over a gentle fire, and keep them constantly and briskly stirring, till grown cold.

This differs only in consistence from the *unguentum ceræ*.

LINIMENTUM AMMONIÆ;

formerly

LINIMENTUM VOLATILE.

Liniment of ammonia.

Take of

Water of ammonia, half an ounce;

Olive oil, one ounce and a half.

Cork the phial, and shake them together.

Dr. PRINGLE observes, that in the *inflammatory quinsy* or *strangulation of the fauces*, a piece of flannel; moistened with this mixture, and applied to the throat, to be renewed every four or five hours, is one of the most efficacious remedies. By means of this warm stimulating application, the neck, and sometimes the whole body, is put into a sweat, which, after bleeding, either carries off or lessens the inflammation. Where the skin cannot bear the acrimony of this mixture, a larger proportion of the oil may be tried.

LINIMENTUM AMMONIÆ FORTIUS.

Stronger liniment of ammonia.

Lond.

Take of

Water of pure ammonia, one ounce;

Olive oil, two ounces.

Cork the phial, and shake them together.

OLEUM AMMONIATUM.

Ammoniated oil.

Edinb.

Take of

Oil of olives, two ounces;

Water of caustic ammonia, two drams.

Mix them so that they may unite.

These two differ only from the two former in degree of strength; the pure or caustic water of ammonia being made use of instead of the milder water, and the quantity also being in larger proportion.

These often excite inflammation when liberally applied, and even blister a delicate skin.

Though, against obstinate rheumatic and ischiadic pains, they are often successfully employed externally.

CERATUM SPERMATIS
CETI;

formerly

CERATUM ALBUM.

Q q 3

Cerate of spermaceti.
Lond.

Take of
Oil olive, a quarter of a pint;
White wax, two ounces;
Spermaceti, half an ounce.
Liquefy them all together, and
keep them stirring till the cerate
be quite cold.

CERATUM SIMPLEX.

Simple cerate.
Edinb.

Take of
Oil of olives, six parts;
White wax, three parts;
Spermaceti, one part.
These differ from the simple
ointment and liniment, only in
containing a greater proportion of
wax to the oil, and the addition of
spermaceti; and, therefore, is more
eligible only in cases where a thick-
er consistence is wanting than the
simple ointment possesses.

**CERATUM RESINÆ FLA-
VÆ;**
formerly

CERATUM CITRINUM.

Cerate of yellow resin.
Lond.

Take of
Yellow basilicum ointment, half
a pound;
Yellow wax, one ounce.
Melt them together.

This is no otherwise different
from the yellow basilicum, than in
being of a stiffer consistence, which
renders it for some purposes more
commodious.

**LINIMENTUM CAMPHO-
RÆ COMPOSITUM.**

Compound camphor liniment.

Take of
Camphor, two ounces;
Water of pure ammonia, six
ounces;
Spirit of lavender, sixteen ounces
by weight.
Mix the water of pure ammonia

with the spirit, and distil from a
glass retort, with a slow fire, fix-
teen ounces. Then dissolve the
camphor in the distilled liquor.

This approaches near to the em-
piric Ward's volatile essence; but is
considered as a more elegant and
active formula; and there is little
doubt but it will be equally ef-
ficacious in removing some local
pains, as particular kinds of head-
achs, by external application.

LINIMENTUM SIMPLEX.

Simple liniment.
Edinb.

Take of
Oil of olives, four parts;
White wax, one part.

This is only thinner than the
unguentum, and may be used in-
stead of that, where a less firm ap-
plication is necessary.

**CERATUM LAPIDIS CALA-
MINARIS.**

CERATUM EPULOTICUM.

Calamine cerate.
Lond.

Take of
Oil olive, one pint;
Yellow wax,
Calamine prepared,—each, half
a pound.
Liquefy the wax with the oil, ex-
pose it to the air, and, as soon as
the mixture begins to grow stiff,
sprinkle in the calamine; keep-
ing them constantly stirring to-
gether, till the cerate be quite
cold.

Edinb.

Take of
Simple cerate, five parts;
Calamine prepared, one part.

These compositions are formed
upon the cerate which TURNER
strongly recommends in *cutaneous
ulcerations* and *excoriations*, and
which have been usually distinguish-
ed by his name. They appear from
experience to be *excellent epulotics*,

and are frequently made use of in practice.

* CERATUM SAPONIS.

Soap cerate.

Lond.

Take of

Litharge, in powder, one pound;

The sharpest wine vinegar, one gallon;

Castile soap, shaved thin, half a pound;

Oil olive, one pint;

Yellow wax, two ounces.

Boil the vinegar with the litharge with a slow fire, constantly stirring, until the mixture unites and thickens; then mix in the rest to make a cerate.

This cerate has been used many years, with great success, in most of our hospitals, for defending the parts from defluxions, in fractures, dislocations, and contusions; and is universally approved of, as a most excellent discutient.

UNGUENTUM PARALYTICUM.

Palsy ointment.

Take of

Hog's lard,

Oil of bays,—each, four ounces;

Strong spirit of vitriol, one ounce.

Mix, and make them into an unguent.

This irritating composition is applied to numbed or paralytic limbs. It soon reddens and inflames the skin, and, when this effect is produced, must be taken off; after which, the part is to be anointed with any emollient unguent, as that of elder.

UNGUENTUM DIGESTIVUM.

Digestive ointment.

Take of

Yellow basilicum,

Black basilicum,—each, eight ounces;

Balsam of turpentine, four ounces.

Mix and make them into an ointment.

LINIMENTUM ANODYNUM.

Anodyne liniment.

Take of

Nerve ointment, three ounces;

Balsam of turpentine, one ounce.

Mix them together.

LINIMENTUM HÆMORRHOIDALE.

Liniment for the piles.

Take of

Emollient ointment, two ounces;

Liquid laudanum, half an ounce.

Mix these ingredients with the yolk of an egg; and work them well together.

CERATUM CANTHARIDIS.

Cerate of cantharis.

Lond.

Take of

Cerate of spermaceti, softened by fire, six drams;

Cantharis, finely powdered, one dram.

Mix them.

The cantharides may be made under this form to act to any extent that is requisite. It may supply the place of either the blistering plaster or ointment; and there are cases in which it is preferable to either, particularly in cases of small pox; or for supporting a drain under the form of issue, as it is less apt to spread than the softer ointment, of which general use is made.

LINIMENTUM AQUÆ CALCIS.

Liniment of lime water.

Edinb.

Take of

Oil of linseed,

Lime water,—of each, equal parts.

Mix.

CERATUM LITHARGYRI ACETATI COMPOSITUM.

Compound cerate of acetated litharge.

Lond.

Take of

Water of acetated litharge, two ounces and a half;

Yellow wax, four ounces;

Olive oil, nine ounces;

Camphor, half a dram.

Rub the camphor with a little of the oil. Melt the wax with the remaining oil, and as soon as the mixture begins to thicken, pour on by degrees the water of acetated litharge, and stir constantly until it is cold; then mix the camphor, which was before rubbed with the oil.

This cerate differs from the ceratum cerussæ acetatæ chiefly in consistence, and may be employed in the same intentions. It is in many cases unquestionably a very useful medicine.

LINIMENTUM OLEOSUM COMPOSITUM.

Compound oily liniment.

Take of

Olive oil, two ounces and a half;

Oil of turpentine, one ounce;

Vitriolic acid, forty drops.

Let the oil of olive, and turpentine, be mixed together, and the vitriolic acid added gradually in an open vessel. This, though an inelegant, is certainly an efficacious composition in chronic affections of the joints, and in the removal of long-existing effects from sprains and bruises.

CHAPTER XII.

EPITHEMS.

CATAPLASMA CUMINI.

*Cataplasma of cummin.**Lond.*

TAKE of
 Cummin seeds, one pound;
 Bay berries,
 Scordium leaves, dried,
 Virginian snakeroot—each, three
 ounces;
 Cloves, one ounce;
 Honey, thrice the weight of the
 powdered species.
 Make them into a cataplasim.

This is a reformation of the
 THERIACA LONDINENSIS, which
 for some time was scarce other-
 wise made use of than as a warm
 cataplasim; only such of its ingre-
 dients are retained as contribute
 most to this intention. However,
 the present practice pays little at-
 tention to such complex applica-
 tions, the same intentions being
 better answered by compositions
 infinitely more simple.

CATAPLASMA DISCUTIENS.

*Discutient cataplasim.**Edinb.*

Take of
 Bryony root, three ounces;
 Elder flowers, one ounce;
 Gum ammoniac, half an ounce;
 Sal ammoniac, crude, two drams;
 Camphorated spirit of wine, one
 ounce.

Boil the roots and flowers in a suf-
 ficient quantity of water, till
 they become tender; and, hav-
 ing then bruised them, add to
 them the gum ammoniacum, dis-

solved in a sufficient quantity of
 vinegar, and likewise the sal am-
 moniac and spirit. Mix the
 whole together, so as to make
 them into a cataplasim.

This composition is as good a
 discutient as any thing that can
 well be contrived in the form of a
 cataplasim. In some of our hospi-
 tals the following more simple form
 is made use of.

CATAPLASMA DISCUTIENS.

*Discutient cataplasim.***T**ake of

Barley meal, six ounces;
 Fresh hemlock, well bruised, two
 ounces;
 Crude sal ammoniac, half an
 ounce;
 Vinegar, a sufficient quantity.
 Boil the meal and the hemlock
 leaves for a little time in the
 vinegar, and then mix with them
 the sal ammoniac.

CATAPLASMA MATURANS.

*Ripening cataplasim.**Lond.***T**ake of

Figs, four ounces;
 Yellow basilicum ointment, one
 ounce;
 Galbanum, strained, half an
 ounce.

Beat the figs thoroughly in a mor-
 tar, occasionally dropping in some
 spirit of wine or strong ale; then
 carefully mix with them the oint-
 ment, first liquefied along with
 the galbanum.

CATAPLASMA SUPPURANS.

*Suppurating cataplasma.**Edinb.*

Take of

White lily (or marshmallow) roots, four ounces;

Fat figs, one ounce;

Raw onions, bruised, six drams;

Galbanum, half an ounce;

Yellow basilicum ointment,

Oil of chamomile, by decoction,
—each, one ounce;

Linseed meal, as much as is sufficient.

Let the lily (or marshmallow) roots be boiled along with the figs, in a sufficient quantity of water, till they become tender. Then bruise, and add to them the other ingredients, and make the whole into a cataplasma, according to art. The galbanum must be previously dissolved in the yolk of an egg.

Both these compositions are good suppurants, or ripeners; though their effects probably depend more on their keeping the part soft, moist, and warm, than on any particular qualities of the ingredients.

SINAPISMA.

*A sinapism.**Edinb.*

Take of

Mustard seed, in powder,

Crumb of bread,—each, equal parts;

Strong vinegar, as much as is sufficient.

Mix and make them into a cataplasma; to which is sometimes added a little bruised garlic.

Or,

Take of

Mustard seed, in powder,

Crumb of bread,—each, two ounces;

Garlic, bruised, half an ounce;

Black soap, one ounce;

Strong vinegar, a sufficient quantity.

Mix and make them into a cataplasma, according to art.

Both these compositions are employed only as *stimulants*. They often inflame the part, and raise blisters, but not so perfectly as cantharides. They are frequently applied to the soles of the feet in the low state of acute diseases, for raising the pulse and relieving the head; and are chiefly regarded for the suddenness of their action.

COAGULUM ALUMINOSUM.
CATAPLASMA ALUMINIS.*formerly**Alum cataplasma.**Lond.*

Take

Any quantity of the white of eggs.

Agitate it with a sufficiently large lump of alum, till it be coagulated.

This preparation is taken from Riverius. It is an useful astringent epithem for *sore, moist eyes*, and *excellently cools and represses thin defluxions*. Slighter inflammations of the eyes, occasioned by dust, exposure to the sun, or similar causes, are generally removed by fomenting them with warm milk and water, and washing them with the collyrium described before. Where the complaint is more violent, this preparation, after the inflammation has yielded a little to bleeding, is one of the best external remedies. It is to be spread on lint, and applied at bed-time.

CATAPLASMA EMOLLIENS.

Emollient cataplasma.

Take of

Crumb of bread, eight ounces;

White soap, one ounce;

Cow's milk, fresh, a sufficient quantity.
Boil them a little together.

CATAPLASMA STOMACHICUM.

Stomachic cataplasm.

Take of

The aromatic cataplasm, one ounce;
Expressed oil of mace, two drams;
Anodyne balsam, as much as is sufficient to reduce them into a proper consistence.

CATAPLASMA CAMPHORATUM.

Camphorated cataplasm.

Take of

Aromatic cataplasm, one ounce;

Camphor, one dram.
Mix them together.

CATAPLASMA ISCHIADICUM.

Ischiadic cataplasm.

Take of

Mustard seed, half a pound;
White pepper,
Ginger,—each, one dram;
Simple oxymel, as much as will reduce them into a cataplasm.

The use of these compositions, which are taken from our hospitals, may be easily understood from their titles. The last is a very stimulating application, and frequently vesicates the skin.

Ch. VII. The history of the
British Museum, from its
founding in 1753 to the
present time. The history of
the collection of natural
history, and the history of
the collection of books and
manuscripts. The history of
the collection of coins and
medals. The history of the
collection of minerals and
fossils. The history of the
collection of antiquities and
works of art. The history of
the collection of scientific
instruments and apparatus.



T A B L E

Exhibiting the Proportion of *Antimony*, *Opium*, and *Quicksilver*, contained in some Compound Medicines of the London and Edinburgh Dispensatories.

OF ANTIMONY.

VINUM ANTIMONII TARTARISATI (wine of tartarised antimony), contains in every ounce two grains of tartarised antimony. Ed. Ph.

OF OPIUM.

TINCTURE OF OPIUM made with purified opium, five grains to every dram. But it appears on evaporating the liquor, that one dram of the tincture contains about three grains and a half of opium. Ed. Ph.

TINCTURA OPII AMMONIATA (tincture of opium ammoniated), nearly one grain in a dram of the liquid. Ed. Ph.

LINIMENTUM OPIATUM (opiated liniment), is made with one scruple of opium in an ounce of the liquid. Ed. Ph.

ELECTARIUM OPIATUM (opiated electary,) contains in every dram almost one grain of opium. Ed. Ph.

ELECTARIUM CATECHU (electary of catechu), contains in one hundred and ninety three grains, one grain of opium. Ed. Ph.

PILULÆ OPII (pills of opium), or thebaic pills, in every dram they have six grains of purified opium; a pill of five grains has half a grain of opium. Ed. Ph.

TROCHISCI GLYCYRRHIZÆ CUM OPIO (troches of liquorice with opium), in every dram have almost one grain of opium. Ed. Ph.

CONFECTIO OPIATA (opiated confectio), [Ph. L.] contains one grain in thirty-six.

PULVIS E CRETA COMPOSITUS CUM OPIO (compound powder of chalk with opium), [Ph. L.] contains one grain of opium in about forty-three grains.

PULVIS IPECACUANHÆ COMPOSITUS (compound powder of ipecacuanha), [Ph. L. and Ph. Ed.] contains in ten grains one grain of opium.

PULVIS OPIATUS (opiated powder), [Ph. L.] contains one grain of opium in ten grains.

PILULÆ OPII (pills of opium), [Ph. L.] contain one grain of opium in five grains.

OF QUICKSILVER.

PILULÆ HYDRARGYRI (pills of quicksilver), in every dram contain fifteen grains of quicksilver. Ph. Ed.

PILULÆ HYDRARGYRI MURIATI MITIS (pills of mild muriated quicksilver, or PLUMMER'S pills), contain in every dram twenty-two grains and an half of mild muriated quicksilver; a pill of three grains has one grain, and a little more. Ph. Ed.

PILULÆ HYDRARGYRI (quicksilver pills), [Ph. L.] in twelve grains contain four grains of quicksilver.

PULVIS SCAMMONII CUM CALOMELANE (powder of scammony with iemel), [Ph. L.] contain in four grains one grain of calomel.

HYDRARGYRUS CUM CRETA (quicksilver with chalk), [Ph. L.] contains in eight grains, three grains of quicksilver.

UNGUENTUM HYDRARGYRI NITRATI FORTIUS (stronger ointment of nitrated quicksilver), contain in each drachm four grains of quicksilver, and eight grains of nitrous acid. Ph. Ed.

UNGUENTUM HYDRARGYRI NITRATI MITIUS (milder ointment of nitrated quicksilver), in each dram contains two grains of quicksilver, and four of nitrous acid. Ph. Ed.

UNGUENTUM HYDRARGYRI NITRATI (ointment of nitrated quicksilver), [Ph. L.] contains in one dram twelve grains of nitrated quicksilver.

UNGUENTUM HYDRARGYRI (ointment of quicksilver), contains in every dram twelve grains; but the stronger contains in the same quantity of the ointment twenty-four grains of quicksilver. Ph. Ed.

UNGUENTUM HYDRARGYRI FORTIUS ET MITIUS (stronger and weaker ointment of quicksilver), [Ph. L.] the **FORTIUS** contains in two drams, one dram of quicksilver; whilst the **MITIUS**, or *milder ointment*, has only one dram of quicksilver in six drams.

UNGUENTUM CALCIS HYDRARGYRI ALBÆ (ointment of the white calx of quicksilver), [Ph. L.] contains in one dram four grains and an half of the calx.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO (ammoniacum plaster with quicksilver), Ph. L. contains in five ounces about one ounce of quicksilver.

EMPLASTRUM LITHARGYRI CUM HYDRARGYRO (plaster of litharge with quicksilver), [Ph. L.] contains in five ounces about one ounce of quicksilver.

EMPLASTRUM HYDRARGYRI (plaster of quicksilver), in every dram contains about sixteen grains of quicksilver. Ph. Ed.



I N D E X.

THE subsequent arrangement of the materials contained in the foregoing pages has been so contrived as to prevent the necessity of crowding this work with a number of tables, which would render it more voluminous than useful;—hence all that is necessary to be understood to give full information of its particular contents, will readily occur to every reader, by observing the method herein adopted:—the asterism denotes the new substances and compounds inserted—the Roman letters of the Latin terms mark under what name each may be found—whilst those of the Italian type show the different terms under which each article has formerly been denominated, or to which they have been altered;—and, when belonging to the *Materia Medica*, speak the language in general of the Linnæan system.—Therefore, when any substance or compound is wanted to be discovered, should the name be in the Italian characters, it will be found in the page referred to, but under some of the terms printed in the Roman letter.—The doses of the medicines annexed to a variety of articles, are to be considered as applicable to the adult, and must be therefore lessened when prescribed to the younger classes, in proportion to their years and constitutional strength.

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ERRATA

Part II. Page 79, Col. 2, Line 20, for *six parts* read *one part*.
21, for *one part* read *six parts*.

Part IV. Page 523, Col. I, Line 9, for *bole* read *chale*.

Part IV. Page 542, Col. 2, at the bottom, PILULE EX HYDRANGEA MUR-
ATO should follow the PILULE SCILLITICÆ, after Simple Syrup, in
which should be inserted the remark above, beginning, "These are ele-
gant and commodious," &c.



